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Educational News and Editorial Comment

A CHALLENGE TO NEW-TYPE OBJECTIVE TESTS

The widespread and insistent demand for objective measurement in education in recent years has led to the development of a great number of so-called "new-type objective tests." The older type of measurement of achievement was regarded as highly subjective, and the feeling was that, if education was to become a quantitative science, it must develop objective measuring instruments. There has been a too common and naïve acceptance of the view that objectivity in scoring a test insures objectivity in measuring achievement. The relatively uncritical acceptance of the new-type test as a measuring instrument is pointedly challenged by Dr. Earl V. Pullias, of Duke University, in a recently published monograph entitled *Variability in Results from New-Type Achievement Tests*. Dr. Pullias' conclusions are of such importance that we feel justified in quoting them at some length.

SUMMARY

1. This investigation dealt with new-type or objective achievement tests which were constructed to measure the same abilities and which were administered under comparable conditions. The purpose of the study was to determine

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the extent of disparity between the results from these tests. Both teacher-made and standardized objective tests were studied.

2. Sixty-three informal or teacher-made objective tests were constructed by thirty-five teachers. The subjects covered were fifth-, sixth-, and seventh-grade geography; fifth-, sixth-, and seventh-grade and high-school history; and sixth-grade health. The tests were matched in such a manner that two tests which were constructed to measure pupil acquaintance with the same body of subject matter were considered as a "pair." Paired tests were administered to sixty-eight groups of children. Forty-three groups took tests which covered relatively short units of identical text matter, and the remaining twenty-five groups took semester examinations based upon practically identical text material. Disparity was measured in three ways.

a) When the pupil scores on paired informal tests were correlated, the coefficients ranged from .845 to −.212. The median of the sixty-eight coefficients was .54. The extent of relationship was slightly less for semester tests than for tests covering a shorter unit of work.

b) A study was made of disparity in terms of the difference between percentile-rank positions on the two tests. The mean percentile-rank disparity found was 23 percentile points. The differences ranged from 0 to 99. About one-tenth of the pupils achieved ranks on one test which were 50 or more percentile points from their ranks on a second test; approximately one-fifth of the pupils varied in rank 40 or more percentile points; and finally, one-third of the pupils showed a minimum percentile-rank difference of 25 percentile points.

c) In terms of teacher marks the disparity between paired informal objective tests was found to be approximately one mark interval. The greatest amount of difference possible was three mark intervals. Approximately 8 per cent of the pupils varied three mark intervals (a mark of A on one test and a mark of F on a second); 23 per cent varied two mark intervals; and 36 per cent varied one mark interval. Two thirds of the pupils received marks on paired tests one or more mark intervals apart.

3. Three standardized objective tests in each of seven subjects and two such tests in each of three subjects were administered to 460 pupils in the sixth grade. The disparity between the results from comparable tests was found (*a*) in terms of correlation and (*b*) in terms of difference in grade-equivalent scores.

a) The correlation between results from standardized tests constructed to measure the same abilities ranged from .906 to .496. The median of the twenty-four coefficients was .68. As a group the spelling tests showed distinctly higher relationship than did other subject tests.

b) In terms of grade-equivalent scores the mean amount of disparity between two standardized tests constructed by experts to measure the same abilities, administered in comparable fashion and scored objectively, was found to be about one school grade (ten months). The range of disparity was from zero to somewhat more than six school grades (sixty-two months). From about 1 to 44

per cent (depending upon the subject) of the pupils varied two or more school grades.

CONCLUSION

The findings of this investigation permit certain tentative generalizations which bear upon the characteristics of objective or new-type tests as these tests are customarily used. The validity of these generalizations is dependent upon the degree to which the findings revealed by this study are representative. The procedures used in the present investigation and the consistency of the findings are submitted as evidence that the results of this study are reasonably reliable. The generalizations follow.

1. A test may be objective in the sense that all personal opinion is eliminated in scoring and still fail to remove important personal elements from the evaluation of pupil achievement. There are many factors (other than scoring) in the total measurement situation which cause marked disparity between the results from two or more new-type or objective tests constructed to measure the same functions.

2. Measures of pupil achievement obtained from different informal objective tests may be expected to vary to a considerable extent. Thus if a pupil takes Teacher A's test his score, rank, and mark may be very different from what his score, rank, and mark would have been had he taken Teacher B's test. This condition is to be expected even when the tests cover identical bodies of subject matter and are designed to measure the same achievement. The extent of disparity which, in general, may be expected has been expressed in the preceding summary as points *a*, *b*, and *c* under 2.

3. Pupil ratings based upon standardized test scores show marked disparity. Thus a grade-equivalent rating for a given child in a particular subject as determined by one standardized test may differ significantly from his grade-equivalent rating as determined by a second standardized test. Although the differences will vary from subject to subject, in general, the disparity or difference may be expected to be approximately the amount reported in the preceding summary (points *a* and *b* under 3).

EDUCATIONAL IMPLICATIONS

Objective tests (teacher-made and standardized) are widely used in the public schools. There has not been much evidence adduced to establish the extent to which such tests are reliable measuring instruments when the processes involved in the whole measurement situation are considered. In the absence of such evidence the tests have been uncritically accepted, and this practice has tended to foster error in the interpretation of test results. An acquaintance with the limitations of objective tests should enable the tester to make allowances and to increase the comprehensiveness of his measurements.

An example of the questionable manner in which standardized objective tests are frequently used will indicate the value of recognizing the limitations of such tests. The seventh-grade pupils in the public schools of North Carolina for

several years were given the New Stanford Achievement Test. The suggestion was made that the grade equivalent 7.0 be taken as the minimum for promotion to the next grade. Now suppose that the State Department of Education had chosen the Public School Achievement Test instead of the test actually adopted. The facts revealed by this study indicate that in this case there would have been an average individual change in grade equivalence, for any given subject, of one school grade (ten months). For example, on the average, pupils who made a grade-equivalent score of 7.4 on a subtest of the Stanford Achievement Test would have achieved a grade equivalent of 6.4 or 8.4 on the corresponding Public School Achievement Test. (It should be remembered in this connection that both of these tests are widely used, that both were devised and standardized by experts, that both were constructed to measure the same abilities, and that grade-equivalent standards were established in the same manner.) In problems of promotion and of grade placement, the extent and consequences of the disparity here described are obvious. It is important then that testers have the knowledge that an individual grade-equivalent score is affected in considerable degree by subjective factors entering into the construction and use of the particular test on which the score is based.

The implications from the study of teacher-made tests are similar in nature. The findings indicate that a pupil's performance on new-type tests, in spite of the fact that the tests are objective in respect to scoring, is relatively variable. It is of significant practical value for persons using the new-type test to know this fact. If scores from tests are thought to be free from the effect of personal judgment, decisions based on them may not be checked by other evidence (as would tend to be the case when the decisions rest frankly upon personal opinion).

The facts here revealed, also, have certain implications for the theory or science of education. Since the appearance of Thorndike's *An Introduction to the Theory of Mental and Social Measurements* in 1904, educationists have tended to maintain that exact or absolute measurements are a fundamental requisite to a science of education. It is of value to know the relative extent to which so-called objective tests satisfy this requisite. The assumption that a science is possible only when uniform, relatively unvarying measures are available may or may not be sound. If it is sound, then the facts here reported indicate that education can hardly base its claim to be a science upon the reliability of the commonly used objective test.

Are new-type or objective tests more or less objective measuring instruments than are essay tests? The consensus of opinion on this point has been (if one may judge from the literature) that the new-type test is much more nearly free from the effects of personal factors. This opinion seems to have resulted from the fact that many writers have neglected to consider the complicated nature of the testing situation as a whole. Such evidence as is available indicates that there is probably little difference between the two types of test in respect to the presence of elements which cause disparity in the test results. However, this point was incidental to the present study; an adequate solution of this problem must await the accumulation of further evidence.

Finally, the educator may ask: In the light of the present evidence, should new-type tests be used in the measurement of educational progress? An answer to this query can be made only when the purpose of the tester is known. Problems such as (*a*) the type of function measured by the new-type test, (*b*) the extent to which the use of such tests promotes reflective thought or rote learning, (*c*) the degree to which new-type tests are an index to various types of mental content, and other similar problems demand for their solution data in addition to those presented in this investigation.

Some Statistics on Education in the United States

The following statement is quoted from the *New York Sun*.

Some 1,020,000 teachers will staff public schools, private schools, and colleges to instruct the 33,000,000 students now beginning their autumn school term, according to figures released . . . . by the United States Office of Education.

Five-sixths of the teachers are women and only one-sixth men, but a slow increase in the proportion of men who enter teaching has become evident in all excepting two or three states, the figures show.

A tightening-up of the requirements which candidates must hurdle before entering the teaching field is evident in the fact that within the last two years nine states have added an additional year of teacher preparation for elementary-school teachers.

Teachers' salaries have hit predepression highs, with the average earnings of city school teachers set at $1,735 and of rural school teachers $787 per year.

Of the students starting their school year 22,500,000 will con their books in elementary schools, 6,500,000 in high schools, and 1,250,000 in higher education. Outside these three categories, schools will enrol 2,750,000 persons.

The number of elementary pupils has dropped by 1,000,000 since the year 1929–30, but this decrease is more than balanced by an upsurge in high-school registration adding 1,735,000 since that year.

The enrolment in vocational-education classes in public high schools is expected to top last year's total of 1,382,000. The cost of education as a whole to each adult in the United States is seven cents a day, the United States Office estimates.

Thirty-three per cent of the country's adult population have at least entered high school, but only 3 per cent have graduated from college, the department's figures reveal.

State Control of Education in the Democracies of Europe

It is common knowledge that in the totalitarian states of Europe the educational systems are employed to develop in youth an emotional attachment to the existing pattern of political and economic

arrangements. The example of these countries raises in the minds of many Americans the specter of federal domination of education whenever any program of federal aid to education is proposed. The example of the democracies of Western Europe is often overlooked.

The following statement concerning state control of education in England, France, Holland, and Switzerland is quoted from a recent issue of the London *Times Educational Supplement.*

Under the auspices of the International Student Service, a number of students and teachers (about fifty-two in all) from France, Great Britain, Holland, and Switzerland met in conference at Oxford last year to discuss "State Control of Education." A report of the conference has now been issued, and can be had from 49 Gordon Square.

Members of the conference had before them a questionnaire, the main question being: In cases where the state is the authority providing educational services, what indications are there that it uses its formative and direct influence on these educational services to promote a general state ideal (religious or political or both) or to promote the interests of a particular section of opinion? A subsidiary question was: Are boys and girls leaving the schools alive to the nature and importance of current political issues, and provided with the mental equipment and practice needed to judge between claims on their political allegiance? On the basis of the questionnaire each country represented submitted a report on the existing position in that country, and these reports were circulated to the delegates before the conference started.

In regard to education in England those who answered the questionnaire were unanimous in replying "None" to the question, "What indications are there that the state uses its influence [in education] to promote the interests of a particular section of opinion, religious or political?" Answers were not so clear as to whether state influence was used "to promote a general state ideal, religious or political," but, says the report, "it is commonly held that the state exerts an influence in favor of political conservatism in the widest sense of the word, and in favor of the established church, or, more generally, in favor of Christianity." There is, in effect, "no serious complaint of any suppression of liberty of opinion or expression in our English state educational system. The danger is entirely in the other direction." One correspondent remarks, for instance: "Empire Day was not observed at either school at which I taught. When I have been present at a school function on Empire Day, it has seemed very properly and unimperialistically arranged. In the same way, the League of Nations Union meetings at schools I have attended could not have given offense to Mr. Winston Churchill himself. The two sets of observances might almost have been interchangeable." Almost without exception, too, correspondents considered that boys and girls "were leaving the state schools very largely apathetic and uninformed about the great political and religious issues of the day."

In the report on the position in France it is pointed out that, while the timetables and syllabuses are drawn up by the state, the state imposes "no particular pressure, whether political or religious, on teachers and pupils." The actual basis of state education in France is neutrality. "As a consequence, are boys and girls, on leaving school, conscious of politics? As a matter of fact at no time in the course of their education have they been explained the respective positions of political parties, nor the latters' arguments. According to the prevailing conception of education, it is up to the child's parents to enlighten him on this subject, in the way that they choose." Nevertheless "the ideal of freedom, which is considered indispensable, is insisted upon. Neither partial nor indifferent, the children, when they leave school, will not, strictly speaking, be prepared for political life—they will at most have acquired a few general principles. The influence of state education does not go any further." No religious teaching of any kind is given by state teachers (with the exception of the Alsace-Lorraine district, where special dispositions are in force), but neither is there any anti-religious propaganda.

In Holland it is found that "the conviction has become common property . . . . that the state should not impose certain religious or social ideals on its subjects through the schools." Resulting from this "we think we can say that the pupils who leave the schools have had no influence from the teacher in politics, but have had no education either such as to make them realize their political responsibility." In Switzerland "the state does not wish to bring into education any influence of a religious character other than that of the general moral idea of Christian humanity. Thus the teaching of religion is nowadays often described as 'Bible history.' The political judgment of pupils leaving elementary schools is in general extremely unformed."

Here and There among the Schools

Principles underlying large-unit planning.—From Charles J. Dalthorp, superintendent of schools of Aberdeen, South Dakota, we have received a mimeographed bulletin of some eighty pages bearing the title "Suggestions for Unit Planning." The bulletin does not purport to be a complete discussion of unit planning and teaching, but it does attempt to present simply and clearly the basic principles and procedures in unit-teaching. Chapters are devoted to the following topics: "Planning the Unit," "Planning the Aims and Objectives," "Planning the Approaches," "Planning the Pupil Activities," "Planning the Daily Lesson," "Planning the Assignment," "Planning the Summary," "Planning To Teach the Everyday Value of the Subject," "Planning Bulletin Board Activities," "Planning

the Use of the Library," and "Sample Unit Teaching Plan." The price of the bulletin is one dollar.

Organized instruction in effective habits and methods of study.—At the beginning of the school year 1936–37, the faculty of each school in Aberdeen, South Dakota, was requested by the administration to plan for the year a research or study project. These projects were to be planned by the teaching staff and directed by the school principal. The administration had two objectives in mind: (1) to give teachers an opportunity for professional growth along lines of their own choosing; and (2) to give teachers the opportunity to study the problems most vital to them in their immediate work. The faculty of Simmons Junior High School, under the direction of Principal William T. Gruhn, attacked the problem of improving the study habits of pupils. They have published the results of their investigation in the form of an extended monograph, entitled "A Program for Teaching Pupils How To Study." Apparently the teachers in this school have been particularly successful in combining available literature on the subject with their own experiences. The result is a guidebook adaptable to any group level, which contains a wealth of practical suggestions and procedures for both teachers and pupils. The monograph sells for $1.25.

Continuous-progress promotion plan in New Bedford, Massachusetts.—In 1935 Superintendent Allen P. Keith introduced a continuous-progress promotion plan into a few of the schools of New Bedford with the idea of extending the plan to other schools in case it proved satisfactory. After two years' trial the principals of the four schools in which the plan has been carried out made the following report.

> This promotional procedure recognizes that learning is a continuous process. It provides opportunities for advancement in learning to be as continuous as mass instruction makes possible.
>
> As we review the year's work, we recognize that the plan offers many educational advantages. The following we consider the most important and outstanding:
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> 1. Teachers and principals study their pupils more than ever before. Therefore, it renders greater service to the children because of a better knowledge of their individual needs.
>
> 2. The flexibility of the system allows each child to be placed in a group where he is able to make steady forward progress.

3. It inspires discouraged children to greater effort, for they can see progress.

4. As the name implies, it seeks to prevent failure and grade repetition. It stresses child growth in terms of interests, attitudes, and habits of work as well as in terms of subject matter.

5. It offers teachers an opportunity for a wider range of teaching experience. It is an aid to teacher growth, for, as the teacher gains a greater understanding of the individual pupil, she has a more sympathetic attitude toward his needs.

6. The promotional procedure is in line with modern educational trends.

It was recommended that four other schools be added to the group trying out the plan.

A county superintendent's supervisory bulletins.—A unique type of supervisory service has been adopted by J. P. Karpen, superintendent of schools of Dakota County, Minnesota. From time to time he supplies the teachers of his county with mimeographed bulletins, "From the County Superintendent's Notebook." In these communications to his teachers he takes the opportunity to call to their attention the practices and procedures in the various schools of the county which he deems of special interest and value. In this way teachers are kept informed of the innovating practices of their colleagues.

In-service training of teachers in the Baltimore schools.—The September–October issue of the *Baltimore Bulletin of Education* contains a detailed account of the program of in-service training in the Baltimore city schools as it has been carried out for the past ten years. Through the administrative council, the divisional conference, the work of special committees, lecture courses, demonstration teaching, supervised classroom observation, conferences, orientation activities, and experimental work, every member of the teaching staff is afforded opportunity for in-service training.

The in-service training program offers a vital challenge to the professional ambition and spirit of every person in the system. Its activities encourage each individual to develop competence in self-analysis, self-criticism, and self-improvement; its aim and its setup challenge him to contribute his share in promoting unity in the school system by carrying out the policies and the objectives of the system as a whole. The entire program reaches out to provide training for every branch of the system so that improvement in classroom instruction, as well as improvement in the entire school system, may be a continuous process of development.

Administrative practices in Nebraska schools.—For a number of years prior to 1930 the Nebraska State Teachers' Association pub-

lished an annual survey of administrative practices in the schools of the state. During the depression these publications were discontinued, but they have now been revived with the publication of a bulletin entitled "Current Practices of Nebraska Schools, 1936–37," which was prepared by Galen Saylor. The following quotation indicates the general purpose of the bulletin.

> A survey of current practices serves several very useful purposes: it enables school administrators to determine the general trend of practice throughout the state and to learn what techniques and procedures are being used among the schools; it affords administrators a basis for comparing the practices used in their respective schools with the practices of other schools of similar size and classification, as well as with all schools in the state; and it gives the student of educational administration an insight into actual school conditions throughout the state. The primary aim of the N.S.T.A. in issuing the bulletin is to aid school administrators in solving their daily problems. . . . .
>
> To facilitate a comparison of practices, schools were classified into six groups according to the total number of teachers on the staff, including superintendents, principals, and supervisors. Thus each school may compare its practices with those of schools of comparable size, as well as with all schools replying.

Data are presented which show current practices in such matters as teacher personnel, elementary-school administration, high-school administration, administration of extra-curriculum activities, and general administration.

The bulletin may be secured for twenty-five cents from the Nebraska State Teachers' Association, Lincoln, Nebraska.

Making the Results of Research Available for Teachers in Elementary Schools

One of the major problems of American education is to find ways and means of diffusing the results of research into the classrooms of the nation. Teaching practice often proceeds quite unaffected by the findings of research workers. In order to lessen the lag between research findings and teaching practice in elementary schools, the Department of Public Instruction in Michigan, through its Curriculum Steering Committee, has published a significant monograph, entitled *What Does Research Say? A Statement of the Implications of Educational Research for Teaching in the Elementary School.* The purpose of the volume is described in the Introduction as follows:

> It undertakes to publish some of the findings of research in a form that will be particularly meaningful to the elementary-school teacher, answering some of

the problems that perplex her, helping her to a better understanding of the child, and increasing her skill in the methods and practices of her art.

What Does Research Say? undertakes to throw light on many educational questions to which research and experimental practice have found the answers or partial answers. It is a venture in applied research. It attempts to give practical answers to practical questions. The best way to do this, in the present status of educational research, appears to consist of asking some competent person to give the best answer research is able to give, even though, in the present state of knowledge, the answer may not be conclusive. The critical problems of the teacher and the definite knowledge of the research worker do not always overlap. The careful reader of this volume will occasionally find the personal equation present, though unsubstantiated opinion, when it appears at all, usually carries a frank note of warning.

In many ways *What Does Research Say?* is a pioneering venture. It is designed to improve teaching by the method of placing in the hands of teachers many of the scientific instruments that have been forged on the anvil of research. In attempting to find a common denominator for research and teaching, it undertakes to do something which many thoughtful students of education regard as extraordinarily difficult; but if the book has shortcomings—and as a pioneer enterprise it probably has a great many—they should not rob it of its basic value.

The questions raised and answered in this volume are of great practical import to teachers everywhere. The following chapter headings will indicate the general types of problems around which the questions are oriented: "Child Development," "Individual Differences," "Personal and Social Relationships," "Materials of Instruction," "Methods of Instruction," "Records and Reports," "Classification and Promotion of Pupils," "Arithmetic," "Expression," "The Arts," "Health, Physical, and Safety Education," "Reading and Literature," "Science," "Social Studies," "Education for Character," and "Activity Programs."

A National Program of Physical Education

For the past nine years the Committee on Curriculum Research of the College Physical Education Association has been working on the development of a curriculum of physical education which would constitute a basic uniform program for the schools and colleges of the nation. The results of the study have now been published in a booklet entitled *The Physical Education Curriculum.* The general purpose and content of the booklet are clearly expressed in the following excerpt from the Foreword.

This volume is an unusual combination of materials in highly condensed form presenting a *national program of physical education* suitable for uniform adoption and use in schools and colleges throughout the United States. It is the result of nine years of intensive study by the Committee on Curriculum Research of the College Physical Education Association, assisted by hundreds of leading physical-education supervisors.

The material is in the form of a carefully graded curriculum sufficiently flexible to be adaptable to any ordinary type of school situation regardless of climatic or geographic condition or equipment limitation.

It is hoped that the curriculum will serve two major purposes: first, to set the standards for a sound educational program of physical activity that can be made available to every child in the United States; and second, to make it possible for children to transfer from one school, city, or state, to another, without excessive loss or embarrassment due to lack of uniformity of programs. A uniform adoption of this curriculum in schools throughout the country will assure the attainment of both purposes.

The material is presented not as an ideal program but as a practical, workable one that should serve as a small but growing snowball that will accumulate volume, strength, and solidity from year to year as it is tried and tested in varying situations by progressive physical-education supervisors and teachers.

Big things grow from small beginnings. Every structure must have its skeleton upon which to build. This booklet presents a skeleton curriculum. The body of the structure should develop slowly, keeping pace with the constantly changing form of the larger education curriculum of which it is a part.

This booklet has been formulated on the recommendation of a group of representative city and state supervisors who participated in the committee study during the past year. It is their feeling that the time is ripe to undertake the promotion of a uniform national program in order to eliminate some of the glaring weaknesses so commonly observed at the present time.

It is accordingly urged that physical-education teachers, supervisors, school principals, superintendents, and boards of education everywhere give careful consideration to the question of officially adopting this curriculum as a basic or core program for their school systems, making necessary provisions for adaptations to local conditions.

The committee chairman will appreciate it if school officials will notify him as soon as they have agreed upon the adoption of the program. This will aid the committee materially in its future work by indicating the extent to which the movement has developed. Future reports on the success of the program also will be very helpful.

The booklet is organized in three parts. Part One presents a brief description of how the curriculum has been developed; Part Two, the detailed program in graded form with suggestions on its use; and Part Three, suggestions on suitable standards for the administration of the program.

The booklet may be secured for sixty cents from the chairman of the committee, William Ralph LaPorte, of the University of Southern California.

The Influence of Income on Social Attitudes

At a recent meeting of the American Psychological Association, Professor Arthur W. Kornhauser, of the University of Chicago, presented the results of an investigation to discover the attitudes of various income classes toward fundamental social issues. The following summary of Professor Kornhauser's findings is quoted from the *New York Sun*.

People with low incomes and the middle-income class he found are likely to share similar points of view on social issues, but he also reported numerous backfires, cases where opinion was not controlled by class.

The study was made by individual interviews with six hundred adults. They were chosen as samples of four groups—low income, middle income, upper income, and especially well to do.

On government ownership there was a tendency to think in class terms. It was favored by 30 per cent of the poorest, 15 per cent of the middle class, 8 per cent of the upper class, and 1 per cent in the wealthiest group.

Contrasted to this, even the latter said "yes" to the idea that "wealthy people have too much influence in running the country." The affirmatives on this question, of the four groups, starting at the bottom, were 75 per cent, 61, 34, and 7.

There was very general agreement of all classes that working people do not get fair treatment and fair play. There was, said Dr. Kornhauser, a tendency for the low- and the middle-income classes to stand together on questions about present distribution of wealth and influence.

"It is worth noting," he reported, "how frequently the percentages for both engineers and lawyers parallel those for business executives, contrary to the hopes of certain intellectuals who like to view the professional men as socially minded and independent of business bias.

"Unlike engineers and lawyers, college professors, chosen from several Chicago institutions, give responses more similar to those of the manual-worker groups."

It was surprising to find, he said, that those stressing desire for greater personal freedom are more than twice as frequently for government ownership as are the others.

Who's Who in This Issue

Leonard B. Wheat, superintendent of schools at Western Springs, Illinois. Jennie Lloyd Thomson, director of child guidance of the public schools in Glen Ridge, New Jersey. C. C. Crawford,

professor of education at the University of Southern California. JACOB A. CARMICHAEL, principal of El Segundo Grammar School, El Segundo, California. E. W. DOLCH, assistant professor of education at the University of Illinois. MAURINE BLOOMSTER, first-grade teacher in the Lincoln School at Champaign, Illinois, co-operating with the College of Education of the University of Illinois in supervision of practice teachers. EMMA REINHARDT, head of the Department of Education at the Eastern Illinois State Teachers College, Charleston, Illinois. G. T. BUSWELL, professor of educational psychology at the University of Chicago. WARREN W. MCSPADDEN, instructor in natural science at Teachers College, Columbia University. ANNE E. PIERCE, head of the Department of Music in the Experimental Schools and assistant professor of music at the University of Iowa. W. G. WHITFORD, associate professor of art education at the University of Chicago. HOMER J. SMITH, professor of industrial education at the University of Minnesota. BEULAH I. COON, agent for studies and research in home-economics education in the United States Office of Education. EVANGELINE COLBURN, teacher-librarian in the University Elementary School at the University of Chicago. D. K. BRACE, professor of physical education at the University of Texas.

THE FLEXIBLE PROGRESS GROUP SYSTEM

LEONARD B. WHEAT
Public Schools, Western Springs, Illinois

More and more educators are rebelling against the type of schooling which tries to fit the child to the school pattern rather than fit the school to the child. They wish to get away from the traditional system in which all pupils are treated alike and pupils are promoted or failed every year. There has been much verbal condemnation of what is now generally done. In a few places pioneering spirits have gone beyond the talking stage and have attempted to work out better ways of training school pupils which would give real recognition to the facts about individual differences. For the most part, however, high costs or other limitations have prevented the newer plans from being widely adopted.

Working toward the goal of a practical system of school organization and administration which would better adjust the average school to the individual child, the public schools of Western Springs, Illinois, have developed *the flexible progress group system.* The plan, which is relatively simple and may be slightly less costly than the old way of handling school children, was instituted in the autumn of 1934. Since then it has been undergoing trial and refinement of detail. It functions successfully in Western Springs, a residential suburb of Chicago, and gives indications that it may be an advancement applicable to schools generally.

The flexible progress group system involves somewhat new methods of pupil classification, promotion, and reports of progress. It calls for minor adjustments in teaching methods and varies the curriculum somewhat for different children. The outstanding feature of the system is that it abolishes for all children the repeating and the skipping of grades and yet allows each child to work at all times at the grade level which fits his educational foundation and mental maturity.

The flexible progress group system was first applied to the primary

grades because there reading dominates the curriculum and makes it possible to base the strictly educational adjustment of pupils on that one subject. Even pupils well along in third-grade work have not yet progressed far enough with their schooling to show variations in relative standing from subject to subject of a degree which would warrant making different pupil classifications in each subject field for purposes of teaching. Language and spelling are so closely related to reading at the primary levels as to be practically a part of the latter. Any study of primary geography or history really is nothing more or less than reading books with social-studies content. At these lower levels, only arithmetic can be said to be a subject sufficiently distinct from reading to offer much chance for pupils to show achievement scores different from their scores on reading. When the arithmetic curriculum follows the postponed schedule which was recommended by the studies of the Committee of Seven[1] and which is found in most of the newer textbooks, formal arithmetic is begun in Grade III. It will be almost Grade IV, then, before the pupils will show any appreciable spread in arithmetic learnings. Classification and promotion based largely on reading achievement, therefore, are quite practical through the first three grades.

With these considerations in mind, the administration of the Western Springs public schools formally did away with the first three grades in September, 1935, after foundation-laying in Grade I during the previous year, and set up instead a primary school without annual promotions.

In the primary school pupils are classified and grouped largely on the basis of reading accomplishment and skill. First-year children entering in the autumn are given preliminary classification on the basis of mental age and previous kindergarten record. When all the children of the primary school are ranked according to reading age and mental maturity, it is a simple matter to divide them so that each teacher has about thirty-five pupils, each class being at a different level of learning or maturity. (In the Western Springs primary

[1] Carleton Washburne, "The Grade Placement of Arithmetic Topics," *Report of the Society's Committee on Arithmetic*, pp. 641–70. Twenty-ninth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1930.

school the classes average thirty-six pupils and vary from thirty-three in first-year classes to thirty-eight in the upper primary classes. There are eight classes in the three-grade spread of the primary school.) After the pupils are assigned to classrooms, each teacher divides the pupils into three or more groups for teaching purposes. Each group within a class is at a different level of progress. The same distance separates the lowest group in one classroom from the top group in the next lower classroom as separates any two groups within a class. In effect, then, there are eight times three groups, or twenty-four different grade levels in the Western Springs primary school instead of three grade levels with two or three classes at each grade level as under the traditional set-up.

From group to group and class to class there is a readily noticeable difference in the general maturity of the children. This ladder of development leads from the group most immature and least advanced in learning among the first-year children to the most advanced group among the third-year pupils. Measurement shows that the averages between groups run upward in about the same order whether the differences are checked on a scale of learning, mental age, height, weight, chronological age, or estimate of social development. A study of chronological-age records, for example, shows that there is an average age difference of approximately six to ten weeks between sequential groups. The order of these average differences between groups parallels, as might be expected, the order of the average educational grade differences between groups. The general organization of the primary school is such that children at all stages of maturity deal with school experiences graded to their level of development.

Such an organization results in much greater homogeneity for each class and for each teaching group. This improved homogeneity tends to make for more teachable groups, an improved learning situation for each child, and less widespread preparations by the teacher to meet the varying needs of the children in her class.

The flexible progress group system is not a static system, however, nor one by which pupils are regrouped once or twice a year. It encourages changes in the personnel of groups whenever the need arises. It allows for the fact that individuals within a group differ

from one another in rate of mental growth, speed of learning, amount of absence from school, rate of physical and social development, and other variables. Several devices are used to meet these individual needs and capacities.

Children who are absent for short periods of time, who are less apt learners and fall somewhat behind their group, or who otherwise need special attention are first given help in a period reserved for them each day. All pupils except those needing extra attention are dismissed each afternoon thirty minutes earlier than is customary in most schools. There is a similar early dismissal for first-year children in the forenoon. This arrangement permits the children who do not need the longer school day to be free and leaves time daily when the teacher can devote her undivided energies to work with pupils needing it. This device, of course, is employed in many schools about the nation.

If a child, even with extra help, lags increasingly behind his group until he is so far in arrears that the next oncoming group is at his level of learning, he is transferred (not demoted) into this next lower group. In like manner a child who has been absent for a month or more with illness may be transferred on his return to school into the oncoming group which is then at his stage of learning. He thus takes up where he left off and does not have to tax himself with makeup work when physically run down.

The adjustment of the rapid-learning child is almost as easily made. It merely means that a few pupils (seldom more than two or three) in each classroom are on individual programs for a limited time. A pupil who acquires greater reading proficiency than the others in his group, who finds opportunity to read more extensively, and who in other ways shows advanced development may in time grow quite out of adjustment educationally and perhaps otherwise with his group.

With such children effort is first made to broaden and enrich the curriculum as much as possible before they are permitted to go ahead to higher levels, especially if they are not over age chronologically. Wide reading in practically all the available books at each level and extra project work are given to those who tend to forge ahead. This procedure probably does not retard much the acquisition of skills,

such as the reading skills, but it does help to keep pupils who mature fast mentally from covering the basic curriculum materials so rapidly as to gain a school classification with older children who are socially and physically much more mature. The broadening and enrichment activities also aid in avoiding the dangers which are likely to arise when able children pace one another, with more or less competitive strain.

A pupil who definitely evidences the need for transfer into a more advanced group is put on an individual program and allowed to work ahead of his group on the course of study. When he has caught up to the level of the next group, he is transferred into it, drops his individual program, and takes up his class work as a regular member of the more advanced group. The period during which any child is on an individual program may be only a few days or may occupy a few weeks.

Transfers of pupils from one group to another in either direction may be made any week end during the year. They are made not only from group to group within a class but from an extreme group in one classroom to the group at the next level in the classroom just above or below, as the case may be. Transfers between groups, which also involve room and teacher changes, call for an extra bit of caution lest an improved subject-learning adjustment be made at the cost of social maladjustment. The complete educational situation must be considered in each transfer.

No child or group is expected to cover any prescribed amount of the course of study in a year or any other given time. No attempt is made to force the children's development to fit the theoretically average schedule of a grade a year. One group of first-year pupils with advanced maturity might be ready for, and begin the work of Grade II, as tradition defines grades, in March or April of their first school year. An average group would start the work the following September. A third group, less matured and slower in learning, might not take up the second-grade course of study until late autumn or early winter of the second year of school. All advance at the speed which accords with their rate of learning and approximate rate of mental growth.

Each group progresses as far as possible with the course of study

during the year, but reasonable mastery of subject matter and skill is expected every step of the way. Each September all pupils take up their schooling where it was left off the preceding June. The rate of school progress varies for different children, but all are going ahead at all times. Some may require four years to go through the primary school. If so, they will advance more slowly and with no failing or repeating of a grade. Others may complete the curriculum in two years and will be able to do so without omitting or skipping any part of it. The majority of pupils, of course, will cover the ground in three years.

Until the school year 1936–37 groups which were to complete the primary-school course of study sometime during the last half of a school year were given a broadened and enriched program throughout the final year so that they would end their primary-school studies the last of May. This arrangement permitted the children to undertake fourth-grade work under the traditional grade-a-year system in the following autumn without the necessity of any awkward adjustments. This plan has worked out very well for the most part, because about half of the pupils in such groups are laggards who need the substantial foundations provided by such an opportunity.

The administration of the Western Springs schools has felt the desirability of extending the flexible progress group system through the intermediate grades, and much study has been given to the matter. Several modifications which might care for the multiple-subject difficulties met in Grades IV–VI have been considered. A couple of the plans have been given some trial. The plan which seems to give most promise of practical development merely adds to the system used at the primary levels the requirement that each pupil keep his progress in all subjects at about the same grade level. When a child falls far behind his group in one or more subjects and, with special help during the extra period at the end of the day, is unable to bring his work in those subjects up to the level of the other subjects, he may be required to use the time ordinarily assigned to the subjects in which his achievement is more advanced for study on his more difficult subjects. In thus bringing all subjects to about the same level, he may fall enough behind his group to make transfer

into the next oncoming group advisable. Children who progress ahead of their group are handled essentially as at the primary levels.

This modification of the system for the intermediate-grade levels was tried out for the first time during the school year 1936–37. It is quite unproved and is in no sense advocated for adoption elsewhere until it is further perfected and its general merits are tested by trial. Some needed adjustments have been found for the intermediate organization, and more may be necessary. Dividing each class into two groups, instead of three as at the primary levels, seems better for the middle grades. This plan seems to work reasonably well in the various subject fields except perhaps the social studies. The handling of over-age pupils, who already are retarded a year or more and who are gradually falling further behind, offers a problem in Grades IV–VI which the flexible progress group system as now employed meets little better than the traditional system. Further modifications of the system or supplemental handling of these slower pupils will have to be worked out at the intermediate-grade levels. It may be, indeed, that the new system will prove to be not adaptable above the primary school. If not, its virtues need not be lessened for those lower levels, where most pupil "failures" of a grade occur in the average school.

In the case of the primary school the flexible progress group system works in Western Springs and probably will work nicely in other residential suburbs. Its first success has been sufficient to persuade some neighboring communities to adopt the plan. It is desirable, though, that the system be thoroughly tested with a control-group experiment in a larger and more average school system before it is regarded as an established improvement for schools in general.

Achievement-test results can only give indirect evidence on the success of the system because of several local uncontrollable factors. The school system is too small for a control-group experiment. An annual turnover of about a third of the school staff because of low salaries does not permit year-to-year comparisons. A change in reading materials and alterations in teaching methods also make comparisons of present achievement with past records of little worth. High average intelligence quotients (about 110) make comparison with national norms on standardized achievement tests of slight

value. About all that can be studied are the achievement scores as compared with the mental-age averages. Here results indicate that achievement is about in accord with mental maturity. Achievement scores for given chronological ages at the primary levels in Western Springs run well above the national norms, as they should, and are better than the achievement scores for similar age groups in preceding years. At least, subject achievement has not suffered, and part of its improvement may be chargeable to the new primary school and the flexible progress group system.

A questionnaire inquiry in June, 1936, showed that 93 per cent of the parents preferred the new plan over the traditional organization. The majority also indicated that they thought the children were happier and more interested in school under the new system, a belief also expressed unanimously by the teachers.

The eleven teachers who have handled classes at the primary levels under the flexible program during the last two years have, without exception, indorsed it as a definite improvement over the old lock-step method. They believe that better accomplishment, happier pupils, and easier handling of class work accrue with the system.

As far as the school administration is concerned, the plan proves its superior merits when it eliminates failure and repetition of grades for slow learners and makes possible other pupil adjustments, such as acceleration without skipping a grade and ready accommodation for pupils who have had much absence from school. The feature of continuous progress for all pupils alone does much to recommend the plan. The fact that achievement may be advanced a little and that general retardation may be decreased somewhat is encouraging. The wholesome interest and pleasure that most pupils find in school under the system show that it probably is meeting their evolving wants. The emphatic approval by parents and teachers of the new primary-school organization lends weighty support to its desirability.

The new system does not result in high costs and should not increase expenditures wherever it may be instituted. Quite the opposite, the costs per pupil often may be reduced. The greater homogeneity of classes makes it possible for a teacher to handle classes as large as, or larger than, those employed with the traditional system.

Enrolment situations which in the past sometimes called for an extra teacher to handle an overflow part of a class or which necessitated having two or more full grade levels under one teacher are eliminated with the new arrangement. Pupils can be divided among the teachers so that all have about the same class enrolment and so that each class contains less than a spread of one grade in learning levels among the pupils. This advantage has already been enjoyed in Western Springs, where the average cost per pupil for current expense runs under $55, a figure comfortably under the Illinois average of about $65 per child. The cost consideration of the flexible progress group system is in its favor.

It seems probable that many schools in diverse communities may break with hidebound practice and may try out the school plan described in this article. The system should be tested further in places of various types. At the middle-grade levels it needs some constructive modifications toward improvement, as well as testing.

SOME ESSENTIAL FACTORS IN LEARNING TO READ

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There is such a mass of material on reading methods and the conditions governing the use of the methods that sometimes we cannot "see the wood for the trees." This article is the writer's effort to find a few essentials in a reading situation.

THE READING PROCESS

In a report of the British Association for Advancement of Science, Hume says: "Acquisition of the mechanics of reading depends upon the ability to perceive and synthesize the contributions received from the eye, the ear, and the muscles. Ability to comprehend what is read involves the apprehension of the right relations between the various elements of the sentence" (9). If this statement be accepted as a definition of what happens when reading occurs, the educator's responsibility is to know something of how and when perception, synthesis, and apprehending take place.

From the confusion of things surrounding a child in a "first" reading group, certain sights, sounds, and movements gradually emerge, take form, and become perceptual experiences. In order that those perceptions which are useful in reading may be induced, the child's attention must be arrested by such specific symbols as are said to stand for the words which he speaks and hears and to which he generally responds. These symbols are as unfamiliar and confusing to a child as are Greek quotations to the average adult. Like the adult, a child often looks at the printed word with an unseeing eye, while attending to things he can really understand. If his attention is to be attracted and held long enough to make these strange symbols familiar and meaningful, the symbols must be presented with some knowledge of how perception takes place.

VISUAL PERCEPTION

According to laboratory experiments, visual perception is controlled by such factors as the number of forms presented, their shapes and grouping, and the degree of meaning which they possess.

1. *The number of forms presented.*—A large number of forms is more difficult to perceive than a small number. The number of forms easily perceived ranges from three to five. These facts seem to support the theory of presenting a simple vocabulary at the early stage in the teaching of reading because words contain a smaller number of forms than phrases. Gates says, "Without ability to read single words, pupils can hardly attain skill in sentence reading" (7), and Dolch has written, "All beginners must *perceive* the printed page a word at a time" (5). As reading involves the ability "to recognize many words by their appearance" (6), words must be presented in keeping with the power of the eye to receive impressions. Although the ability to read phrases is desirable as a reading habit, knowing the words that the phrases contain is the essential; for we meet the same phrases only occasionally, but we continually meet the same words in different phrases.

2. *The shapes and grouping of forms.*—The eye tends to notice general characteristics, then becomes critical and conscious of details. This fact supports the theory of presenting words and phrases and then calling attention to the letters and words composing the phrases. Opportunity to perceive words and phrases must occur repeatedly in order that their details may be noted and a means supplied for judging why one is not another.

Grouping, even with adults, begins when six forms are presented; six are unconsciously divided into groups of three. This fact suggests that children could be expected to perceive, with ease, words of three letters or phrases of three words. Rickard (11) reports that six-letter words proved to be less difficult for young children to recognize than words with four or five letters, probably because the six-letter words can be divided into syllables. The writer has noted that children's eyes are arrested by words composed of very black letters closely spaced. Such print grips the eye while loosely spaced letters cause it to wander.

3. *Meaningful material.*—Meaningful and simple stimuli produce a correct perception and response more quickly than do meaningless and complicated stimuli. This fact seems to indorse methods which make use of the interests, experiences, and words that are familiar to children through speech. Interest will arouse the desire to use eye and ear perceptions, and a reading lesson which follows some common experience—a familiar story, a trip to the firehouse, or making a workbook—will provide meaning to words and phrases symbolized in print. In the words of Ayer, "What an individual sees in an object depends upon the knowledge he brings to it" (1). New words and phrases must be simple and uncomplicated if quick and correct perception and response are desired. The new words and phrases should be freed from a mass of printed matter while their characteristics are being noted.

Clearness of perception increases two and three times by several exposures. Repetition makes new things familiar and meaningful. We tend to note familiar names more readily than unfamiliar because we have seen the familiar so often that we have become conscious of their characteristics. Such consciousness has not been developed through any flash-card method but through careful scrutiny; for the eye cannot become conscious of characteristic details in one or more swift glances. This fact has been proved in the laboratory use of the tachistoscope, and any driver has proved it in his inability to read signpost directions while traveling at high speed. If, then, children are to gain a clear perception of words and phrases, they must have opportunities to see the words and phrases many times without haste and under varying conditions. Clearness of perception occurs more readily when there is opportunity to see a few words many times than when many words are encountered a few times.

If meaningless or complicated stimuli can be perceived as individual or group parts of the *whole* stimulus, correct perception will be quickened. The ability to make this synthesis depends largely on familiarity with the material. It has been proved to be easier to group letters or phrases in one's native language than in a foreign tongue because the native-language words have been seen more frequently. As a person becomes familiar with the parts and the structure of words, phrases, sentences, and paragraphs, he does not

actually perceive each word but, at a glance, selects and combines the distinctive characteristics. This perceptual power is not possible in the beginning stages of reading, for it depends on such familiarity with each part that quick recognition can take place.

It would seem that becoming familiar with the details of printed words and phrases is essential if correct perception and synthesis are to occur. In visual perception, a person becomes familiar with the things or forms which he is most frequently induced to see.

AUDITORY PERCEPTION

Impressions received from the ear, or auditory perceptions, are controlled by such factors as the relative positions of the ear and the sound, the intensity and the distance of sound waves, and association and practice.

1. *Positions of ear and sound.*—Sound is more easily perceived when located directly opposite the ear, and ease of hearing decreases as sound approaches the center of the body. Except in cases of speech or hearing difficulties, this factor is of slight importance in learning to read.

2. *Intensity of sound.*—Loud sounds and distant sounds are likely to lack clearness; for the former cause reverberations and the latter are caught in currents of other sounds. If auditory perceptions are to be clear and accurate, there is need of a quiet room, where low voices can be used and where the ear will not be confused by conflicting noises. Children have to learn to listen to specific things and to shut out irrelevant things. Thus, the more limited the number of sounds, the more readily will the desired perception take place.

3. *Association and practice.*—Association and practice influence sound localization and discrimination generally. According to Seashore (13), visual and tactual images and sensations influence what a person hears. In other words, one tends to associate with sound what other senses have made familiar. This fact indorses the practice of allowing children to hear, see, say, and get the "feel," through touch and movement, of new words.

As in visual perception, recognition can occur only when a sound is familiar, and familiarity depends on repetition or practice. Thus, new words must be repeated until the ear becomes used to them.

They must be practiced until the tongue and the throat muscles become familiar with them. Such needs can be met through experiences in phonics and in oral reading. Until a child begins to read, he has known words as sounds which stand for objects and ideas; reading is based on certain sights which represent these sounds. In the beginning stages of reading it is natural to associate these strange sight symbols with the sounds for which they stand. Vocalization should be expected in this transition stage. St. Augustine, writing in the fifth century about the habits of St. Ambrose in his study at Milan, said, "When he was reading, he drew his eyes along over the leaves, and his heart reached into the sense, but his voice and tongue were silent" (**12**). Many adults of today vocalize when reading something new to their experience or difficult for them to comprehend. If silent reading was worthy of comment as late as the fifth century and if adults still vocalize on occasion, it is illogical to expect children to leap into the habit of reading silently.

Children may be expected to hear words, letter sounds, and phrases which are uttered clearly and often, provided there are not too many irrelevant and conflicting sounds.

KINESTHETIC PERCEPTION

Kinesthetic perception in reading involves a muscular response to printed or written words. Naturally the eye muscles are most frequently used, but in the learning stage the muscles of ear, tongue, hand, and arm are also brought into play. In fact, there is likely to be a great waste of muscle response; for, like a new golf-player, a young child does not know which responses are most effective. Consequently fatigue is a frequent by-product of the process of learning to read. Children often see a word backward; they confuse the end with the beginning. In uttering a printed word, they sometimes use the wrong set of muscles, perhaps the lips instead of the tongue, and produce *p*'s when aiming for *t*'s. Like the golfer, it is only through attentive practice that their muscles become trained to produce the actions desired. Kinesthetic perception, like visual and auditory perception, is controlled by such factors as simple stimuli, attention, practice, and freedom from fatigue.

PERCEPTION AND SYNTHESIS IN THE ATTAINMENT OF READING ABILITY

In short, laboratory and life situations prove that visual perception is facilitated when a few forms having arresting characteristics are presented so frequently that they become familiar and meaningful and can be recognized and grouped at a glance; that auditory perception is facilitated by limiting the number of sounds heard and by hearing them so often that they acquire meaning; and that kinesthetic perception becomes selective through many opportunities to discover and practice the desired response. Although perception has been discussed under the headings of visual, auditory, and kinesthetic, it must be remembered that perception takes place with no such distinct division. What one sees is influenced by auditory, muscle, and other sense experiences; what one hears and responds to in any muscular way is so tied up with other sensations that separation is impossible. It is safe to say that the richer the perceptual experiences, the greater will be the degree of learning.

Neither can perception be separated from the synthesis of impressions referred to by Hume (9). Everybody tends to relate one impression or its parts to another. In reading, the words perceived are put together in phrases, sentences, and paragraphs. This process is carried out more readily if we know the words by sound, meaning, and sight. Synthesis is bound to occur because it is included in any sensation; but, if the desire is to establish such *specific* kinds of "putting-together" as are demanded by accepted word, phrase, sentence, and paragraph structure, children must be familiar with each part. Familiarity develops by perceiving a small number of forms sufficiently often to make recognition assured. As a child becomes familiar with combinations of letters, words, and phrases, he will not actually perceive each word but will select the distinctive and significant forms. This selective ability adds to his reading facility by freeing him from dwelling on technique and by enabling him to understand the "right relations between the various elements of the sentence" (9). This stage makes possible the appreciation of content; the ability to comprehend the printed page has been attained.

READING READINESS

Correctly perceiving and understanding printed words and pages is not the only kind of learning which takes place when children begin to read. Most young children look forward to reading as a happy and desired experience, and many of them are not disappointed. As in all human activity, they soon become conscious of difficulties, of success or of possible failure, and they are stimulated or fearful, according to their individual abilities and temperaments. If coping with the difficulties is not beyond the children's abilities, success and satisfaction will follow. If, however, the children's perceptual powers have not reached the discrimination demanded in reading, the inevitable result will be anxiety, fear, and evasion of reading situations. The children will learn to fear the use of the very powers which reading requires.

We must know, then, not only what methods are effective but when the methods should be used if desirable learning is to take place. Burk (3) states that accuracy of perception is dependent on physiological maturity. Hurlock and Thomson (10) found that between the ages of four and a half and eight and a half, inclusive, the ability for accurate and detailed perception increases with age and, to a lesser degree, with intelligence and that the tendency to see associated objects and design increases with age but shows little relation to intelligence. Since reading calls for accurate and detailed perceptions and for the ability to see associated forms, it would seem that chronological age is an important factor in learning to read.

In 1934 Bigelow (2) reported an experiment showing the relation between chronological age and success in the first four elementary grades. She found that children entering Grade I when six years of age and over and with intelligence quotients of 110 or more were almost certain to succeed in the first four grades and that children who entered before they were six were more than likely to fail unless they had superior intelligence. In children entering before the age of six there was frequent evidence of serious emotional strain. Bigelow's study supports the findings of the writer (14) that, when the chronological age for beginning reading ranged from six to seven years instead of from five to six, the percentage of children who liked reading rose from 8 to 91 and the percentage who were anxious

about reading fell from 44 to 3. Apparently children cannot be expected to respond constructively to the most perfect methods of reading until they have reached the physical age when the quality of perception required has developed.

Unfortunately there is little proof of the age best suited to the learning of reading. The writer believes that most children would attain greater reading skill and more desire to use it if their attempts to read were deferred until they were approximately seven years old. Terman found that 33 per cent of the children rated as geniuses are from seven years to seven years and eleven months of age when in Grades I and II (4). The father (8) of a boy with an intelligence quotient of 192 reports that, when the son was six years and four months of age, he asked his father to read *to* him; at the age of seven years and six months the boy began reading to himself. Up to that time he accumulated experiences, ideas, interests, and a vocabulary, instead of wrestling with reading symbols. If these studies are representative of what should be expected of gifted children, it is illogical to require the usual child to begin reading even at six years of age.

FAVORABLE CONDITIONS FOR LEARNING

Even if a child has sufficient physical and mental maturity and the methods used to teach him to read are such as to induce effective habits of perception, synthesis, and apprehension, desirable learning can be prevented by unfortunate social and physical conditions. It has often been stated that children can learn in large classes as readily as in small classes, sometimes more readily. This statement may be true for some subjects and for certain age levels. Learning to read, however, is an accurate and detailed process. An adult does not find it as easy to learn to play bridge in a room with thirty-nine other players as in a room with three or seven. The reason is obvious. His perceptions are confused by many conflicting sights, sounds, and directions. He cannot know, while inexperienced, which of all the things that he sees and hears will increase his playing facility. Nor can a child in a room with thirty or forty other children successfully sort out, from all the sights and sounds beating on his senses, the few which will be effective in learning to read. It is significant that, in all remedial work, reading is taught in groups of five

and six children. Not only is it taught, it is usually *learned*. Again the reason is obvious. The number of perceptions induced is so limited that there is small chance of a child's learning the wrong thing; and, if he should, his teacher will know it before a fixed habit has grown. It would seem that classes of fewer than thirty, which could be divided into groups of six or eight, would induce more desirable learning in reading.

The physical conditions in a classroom may facilitate or inhibit desirable learning. Learning takes place all the time, but, if we are seeking selective learning, conditions conducive to such learning must be provided. Too much or too little light or light falling into the children's faces will interfere with correct visual perceptions; street and room noises, such as the noise of motors, bells, and ventilating fans, will confuse their auditory perceptions; and lack of space scatters their perceptions, for each child is so conscious of the children near him, of their possessions, movements, and behavior, that he cannot easily attend to the selected activities required of him. The powers of attention and application are also decreased by great heat and stale air.

CONCLUSION

In an address to the Association of Consulting Psychologists,[1] Gates said, "I am inclined to conclude that all but 3 or 4 per cent of children who now develop reading disabilities could, under conditions that could be realized, have learned successfully, in the first place."

It would seem that among the "conditions that could be realized" is a more general knowledge of how and when accurate and detailed perceptions can be roused and under what social and physical conditions the specific forms of perceptions and syntheses desired are likely to function. When such knowledge is applied to reading situations, children's perceptions will take on the desired impressions, and at least some apprehension of the right relations between the various elements of the sentence will follow.

[1] Reported in the *News Letter* of the association, March 5, 1935.

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THE VALUE OF HOME STUDY

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ARGUMENTS PRO AND CON

There are four criteria that might possibly be applied in judging the worth of home study as a scheme of school organization: (1) its effect on mastery of the subject matter and tool skills that are measured by standardized tests; (2) its effect on children's non-school learnings, including experiences both good and bad that come to them while they are seeing motion pictures, going for rides, drinking soda pop, or enjoying fireside family contacts; (3) its effect on the pupils' morale, character, and sense of responsibility; (4) its effect on parents' freedom, happiness, and opportunity to get worth-while experiences during the evenings.

Home study has long been an integral part of the school program. It is defended on a variety of grounds. Many parents feel that their children learn nothing if they bring no books home from school. If school is a place to recite, then when do children learn unless at home? Home work is supposed to affect the moral quality of pupils. Freedom at night cultivates lazy habits. A taste of evening leisure may make it hard for a pupil to buckle down to evening work later in high school, in college, or in a vocation that requires evening study and preparation for the next day's business. Adults in many callings are obliged to work or study at night in order to succeed, and pupils should become accustomed to doing so while they are in school. Struggling with lessons through the wee small hours is a good "discipline for the soul" and a builder of sturdy character. It is also an excellent type of competition with motion pictures, soda fountains, and the many other varieties of "running wild" that are available to young persons who have leisure. Such are the arguments advanced in favor of home study.

The movement to abolish home study has revealed another group of interesting factors and arguments. Economy in the purchase of textbooks has suggested that one set of books can be used by several different groups of pupils during a day and never be taken from the classroom, whereas home study requires a book for each child. There is opposition to home study because of the unfavorable conditions for study that prevail in many homes, where bad light, limited table space, radios, family conversation, and other factors interfere. Pupils also frequently confirm themselves in bad habits of work when they study at home, whereas at school their faulty techniques would be discovered and remedied much sooner. Parental freedom and leisure in the evening may be a decided hindrance to children's study, and children's study may be a serious limitation on parental freedom. Some parents are supposed to be overworked in their efforts to teach lessons to their children at home, and parents or older children often do the work for the pupils outright. Many times this help amounts to dishonest assistance, with the corresponding corruption of the pupils' morals. At the best, home assistance often involves a bad influence on learning because problems are solved for the child and he does not learn how to solve them for himself. Such are the arguments advanced by those who would abolish home study.

FACTS FROM AN EXPERIMENT

Let us now examine some actual facts based on a careful annual measurement of the achievement of all the children in Grades V–VIII in the El Segundo Grammar School over a three-year period with home study, followed by a three-year period without it. Carmichael measured results each year by means of the Stanford Achievement Test for a period of six years. Three of these years represented time during which the usual home study prevailed. Then home study was prohibited, and the same measurement program continued for three additional years. Grade-placement norms were used as a basis for the comparison of results during the six years involved in the study. These grade-placement norms were compared, not only on the basis of composite scores for the whole test, but also on the basis of the scores for the different parts of the test that were constant during the six-year period. It happened that the

Stanford test was revised during this time, with the addition of some parts and the elimination of others. It was thus impossible to compare all the parts, but the grade-placement norms that are used in this study are, according to the makers of the test, valid and comparable. Comparisons based on the composite test scores represent the best average for this study.

TABLE 1

GRADE PLACEMENT ON STANFORD ACHIEVEMENT TEST ADMINISTERED TO PUPILS FOR THREE YEARS WITH HOME STUDY AND FOR THREE YEARS AFTER HOME STUDY WAS ABOLISHED

GRADE	GRADE PLACEMENT		DIFFERENCE	
	Average of Three Yearly Testings with Home Study	Average of Three Yearly Testings after Home Study Was Abolished	Expressed in School Years	Expressed in School Days
V B	5.63	5.37	0.26	52
V A	5.87	6.00	− .13	−26
VI B	6.77	6.37	.40	80
VI A	6.90	7.03	− .13	−26
VII B	7.60	7.73	− .13	−26
VII A	7.83	8.07	− .24	−48
VIII B	9.07	8.70	.37	74
VIII A	9.43	9.40	0.03	6
Average of grade averages	7.39	7.33	0.05	11
Average for all pupils in Grades V B–VIII A	7.37	7.33	0.04	8

It is naturally impossible to be sure that all conditions other than that of home work remained constant during the six-year period. Teachers and teaching efficiency remained very constant, in the judgment of the administrators involved, in all except one possible factor. The trend toward activity programs introduced a new element during the latter part of the six years, and its effect on the results is difficult to judge. Since, however, the activity approach is commonly criticized for its neglect of just such fundamental skills as are measured by the Stanford Achievement Test, it is reasonably safe to conclude that a showing in favor of home study is not due to this factor.

Tables 1 and 2 agree closely on the point that there is no significant difference between the achievement in the three years before and after home study was abolished. The net difference ranges from eight to thirteen days, according to the basis of calculation. Since this difference represents the change during the total time that home study was not used, with measurements after one, two, and three

TABLE 2

GRADE PLACEMENT ON SEPARATE PARTS OF STANFORD ACHIEVEMENT TEST EARNED BY PUPILS DURING THREE YEARS WITH HOME STUDY AND THREE YEARS AFTER HOME STUDY WAS ABOLISHED*

TEST	GRADE PLACEMENT		DIFFERENCE	
	Average of Three Yearly Testings with Home Study	Average of Three Yearly Testings after Home Study Was Abolished	Expressed in School Years	Expressed in School Days
Paragraph meaning	7.70	7.70	0.00	0
Word meaning	7.27	7.50	− .23	−46
Spelling	7.17	6.93	.24	48
Language usage	7.73	7.63	.10	20
Literature	7.50	7.40	.10	20
History and civics	7.47	7.20	.27	54
Arithmetic reasoning	7.43	7.10	.33	66
Arithmetic computation	7.73	8.03	−0.30	−60
Average	7.50	7.44	0.06	13
Composite scores on whole test	7.37	7.33	0.04	8

* Because of revisions of the Stanford test, some portions of the test could not be compared, but the composite scores and the grade placements for the parts shown in this table are valid and comparable.

years, respectively, it is to be interpreted as a loss of eight to thirteen days in an average of two years of school time, or four to six days a year. This loss is obviously too small to be considered significant when account is taken of the fact that the school year may vary more than that because of holidays and other interruptions. When the data were analyzed graphically, it was impossible to visualize any difference whatsoever between the two periods. (The graphs are omitted from this article for economy of space.)

It will be noted that some grades and some skills showed higher or lower results than others. The range of variability among these factors may probably best be ascribed to differences among teachers

and differences in teacher emphasis on the different skills, rather than to any noticeable tendency for home work to be good in one grade and not in another or for home work to be effective in teaching arithmetic computation and not in teaching reasoning. The averages given in the tables are therefore more significant than the individual items within the tables.

Carmichael assembled some significant data regarding the effects of home work on high-school marks. During the first three years of the study ninety-three children who had been accustomed to home work left the El Segundo Grammar School and went to the El Segundo High School, where they earned average marks of 2.63, when expressed as grade points. During the last three years of the experiment 133 pupils who had not been accustomed to home work entered the high school and earned average marks of 2.22. When the difference (0.41) was interpreted in the light of standard deviations and standard errors, it proved to be 4.9 times its standard error—a ratio which represents chances of about two million to one that there was a significant causal factor other than errors of sampling. In other words, something caused a significant drop in the high-school marks of the graduates of the El Segundo Grammar School after home study in the grammar school was abolished. This drop could not have been caused by the lesser preparation of the pupils because their achievement had been shown to be equal on the Stanford Achievement Test. It is also known that the drop in school marks was not caused by a drop in the marks of the El Segundo High School as a whole because a check on this point showed the marks to be nearly constant during the six-year period.

These pupils suffered a relative slump as compared with other pupils who attended the El Segundo High School after having graduated from the elementary system under home study. What caused this slump? Since the pupils in the two groups were approximately equally well prepared from the standpoint of subject matter and skills, then the slump evidently resulted from differences in attitudes or habits of work. The pupils who had no home study for a period of time apparently had difficulty in getting down to it again when they entered high school. They had probably been spoiled by evening leisure so that they were not so punctual or dependable

about getting in assigned papers on time and, in general, probably failed to study as much as those who had been accustomed to evening study. If this interpretation is correct, it lends some support to the moral arguments stated earlier in this article. It of course raises the additional point of possible abandonment of home study in high school as well as in elementary school.

There is one loophole through which an advocate of abolishing home study could escape in his interpretation of these high-school marks. The lowered marks of the pupils who had no home study might conceivably result, not from their lesser mastery of high-school subjects, but from their lack of conformity to rules and assignments with respect to the time of handing in papers. If high-school home work were judged as an end in itself rather than as a means to real mastery of the fields taught, this interpretation might be in order. No data were available, however, on this point.

HOW TO GET GOOD RESULTS WITHOUT HOME STUDY

Carmichael's findings leave us somewhat in doubt as to the final answer but with a strong suspicion that pupils do not learn much as a result of home study. The much more important question is: How can the school program be revised so that good results can be obtained without resort to home study? Perhaps if the efficiency of school work were stepped up, the results could be increased infinitely more than they can by the very doubtful plan of sending children home to educate themselves as best they may. A few adjustments along these lines will be considered.

Longer school day.—It would seem entirely possible to add a few minutes or even an hour to the school day so that pupils could study under school guidance instead of adding the same hour on a "split-shift" basis, to be put in at home.

Better motivation.—If pupils could be taught more from interest and less from effort and duty, they could learn what they learn in a greatly reduced amount of time. Many school or home-study tasks are performed on a basis of drudgery rather than interest. Without motivation there is no learning. If home study were materially increased and the school day materially lengthened, there would still

be little increase in real learning products unless there was motivation.

Adjustment of work to child maturation.—A great deal of time is consumed trying to teach children what they are too young or too immature to learn. A concept in arithmetic or grammar which is next to impossible for a child in Grade IV to master may be grasped quickly when the child is a year older. If educators were only more willing to wait until the child is ready for learning or if they were more willing to adapt the program to the child's maturation, they would save hours of bungling and struggling, either at home or at school, with tasks that are impossible because they are approached prematurely.

More actual teaching at school.—It is proverbial that many teachers spend their time in lesson-hearing and in testing the pupils' preparation instead of *teaching*. If home work were abolished and the class time were used for actual teaching instead of testing, the learning process at school might be so greatly intensified that home study would be unnecessary.

Teaching how to study.—Home study involves *studying*, with little progress in *learning how to study*. Pupils struggle along blindly without improving their techniques. If more attention were devoted during the school day to making pupils conscious of their work methods and to the formation of efficient and economical study habits, the learning product could be tremendously increased and the learning time greatly reduced.

SUMMARY

This study revealed no significant difference in scores on the Stanford Achievement Test in Grades V–VIII during three years with home study and three years after home study was abolished. The pupils without home study, however, although equally well prepared in subject matter, suffered a drop in high-school marks to the extent of 0.41 of a mark, which was highly significant from a statistical viewpoint. This finding suggests strongly the interpretation that evening leisure once enjoyed is hard to give up or that, if home study is once abolished, the pupil has difficulty in returning to it.

PHONIC READINESS

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The idea has become commonly accepted that the child cannot begin to learn to read until he has reached a certain degree of mental maturity. That mental maturity has been called "reading readiness"; it is chiefly "school readiness" plus the ability to acquire a sight vocabulary, that is, to associate word sounds with word forms. When a child can make such associations under classroom conditions, he can begin learning to read. When he has accumulated a sight vocabulary of the most common words, he can actually read books if they are strictly limited to the simplest vocabulary. Thus, with sight learning of common words and with vocabulary control in reading materials, teachers can secure what is typically first-grade reading.

Schoolbooks do not, however, remain limited to the sight vocabulary of the first-grade pupil. New words must come in daily and at an ever-increasing rate. At the same time the amount of repetition of new words steadily decreases. As the number of words becomes greater, the appearance of the words becomes more and more similar. All these conditions—greater number, less repetition, and greater similarity of words—demand something more than the sight method of learning. They demand what is called "independence in word recognition," and that means some sort of phonic attack.

Phonic attack must come—but when? The general agreement is that it must follow some certain amount of sight recognition. Phonic attack means the use of generalizations about how letters are sounded. Inductive teaching has been found to be most effective; the teacher puts together words with similar letter sounds and leads the child to note the similarity. After the child has perceived that four or five words beginning with a certain sound begin with the same letter, he is supposed to have learned the generalization that all

words beginning with that letter begin with the associated sound, and he is supposed to use this generalization in new word situations.

It is true that the use of phonics means the use of generalizations, that generalizations are best learned inductively, and that sight words are the basis of inductive reasoning. Do these facts mean that, as soon as the pupil has learned a few similar sight words, he can go right ahead with phonics? Actual classroom experience leads to the questioning of such a conclusion. Dozens of sight words of similar sound can be taught; the children can be led carefully through the process of inductive reasoning; and still many of the pupils simply do not understand phonics. The best teachers as well as average teachers have this experience. Some factor seems to have been neglected.

Studies have been made of the sight words needed and of the methods necessary for inductive teaching, but little attention has been paid to the mental abilities which the child himself uses in the process. To learn phonic analysis of words and to use the results of such analysis surely requires more mental ability than that used in sight recognition or, at least, a different type of mental ability. Experience in teaching indicates that this conclusion is correct. Learning of phonics comes later than the sight learning of words by a greater or a less interval. Some children use phonics to some extent in Grade I; other children learn to do so in Grade II; and still others do not seem to secure an understanding of phonics until Grade III. These facts show that some factor is operating other than material or teaching method.

One hypothesis is that the ability to learn and to use principles of phonics is closely connected with the increase in mental age. General reading readiness, which is largely readiness for the sight learning of words, is generally supposed to be attained at the mental age of about six years. The school experience just cited suggests that phonic readiness comes at some time later than sight readiness. Then it may come later than the mental age of six. To try out this hypothesis, an experiment was conducted in the first two grades of a school in which the teaching of phonics had been uniform for at least two years and in which phonics had had some emphasis, though not an unusual amount. The plan was simply to measure,

first, the children's mental development and, second, their phonic attainment, and to see whether one was in any way related to the other. About May 1, 1935, the Pintner-Cunningham Primary Mental Test was given to the children in each of the two grades. In the previous September the first-grade pupils had been given the Detroit First-Grade Intelligence Test, and the year before that the pupils now in Grade II had been given the Pintner-Cunningham Primary Mental Test. Results from these previous tests were roughly brought up to date by the addition of the number of months from the time of giving the test to May 1. Thus mental ages for the pupils of both grades were secured from the average of two group tests. It must be understood that these results could not give anything like the accuracy which individual intelligence tests would make possible.

The phonic achievement in these two grades was determined by the use of experimental issues of Tests 1 and 2 of the Basic Reading Tests, Word-Attack Series.[1] Test 1 of this series consists of words containing only the short vowels, preceded and followed by a single consonant. Each test word is in a line with three other words or word-like forms, each of which differs in only one letter from the test word. Hence the word wholes look so much alike that recognition by the method of pure sight is difficult for a beginner, and the child is usually compelled to sound out the forms in order to find the right form pronounced for him by the tester. Test 2 is of similar construction except that some of the test words contain short vowels and some long vowels with final *e* and that many words also contain consonant blends or consonant digraphs. In both tests sight knowledge is rendered largely useless by the great similarity of the word forms. In addition, the words in the test are familiar to children by meaning, but they do not appear on lists of words common to primary reading books. In Grade II the scores on the two phonic tests were averaged to give each child's phonic achievement. In Grade I only the easier test was used.

Because the second-grade group had had more teaching than

[1] The Word-Attack Series of the Dolch-Gray Basic Reading Tests are published by Scott, Foresman and Company, Chicago, Illinois. They are group tests measuring three degrees of ability in sounding attack on new words.

Grade I, the groups could not be combined, but it may be assumed that the material and teaching factors for the members of any one group were practically constant. Therefore, for each group the mental age and the phonic achievement were correlated by the Pearson product-moment method. As a check on the results, the experiment was repeated in May, 1936. There was marked agreement between the results of the two experiments, as is shown in Table 1.

When consideration is given to the difficulty of accurate measurement of young children in both the fields concerned, the relation between mental maturity and the use of phonics is remarkably high.

TABLE 1

CORRELATION OF MENTAL AGE AND PHONIC ACHIEVEMENT OF PUPILS IN GRADES I AND II IN TWO SCHOOL YEARS

Grade	Number of Pupils	Correlation
I (first year)	30	.412 ± .102
I (second year)	24	.472 ± .106
II (first year)	28	.516 ± .096
II (second year)	33	.406 ± .098

The scattergrams made from the scores show a further significant fact: children of high mental age sometimes fail to acquire phonic ability but children of low mental age are certain to fail. The scattergrams seem to show the thing in which we are perhaps most interested, namely, the minimum age for phonic readiness. Children with mental ages below seven years made only chance scores; that is, as far as this experiment indicates, a mental age of seven years seems to be the lowest at which a child can be expected to use phonics, even in the simple situations provided by these two tests.

It has always been known that some first-grade pupils learned to use phonics, but it is also known that many children reach a mental age of seven years before the end of Grade I. Most of the others, though not all, reach the mental age of seven years in Grade II. These results seem therefore to check with school experience. They do not tell, however, exactly when the teaching of phonics should be

started. Ear-training, which is the basis of phonics, may begin early. Children may be taught to notice the similarities between sounds some time before they are expected actually to use sounding generalizations. This study does suggest, however, that the schools are perhaps expecting results from phonic-teaching far too soon.

This experiment deals with the relation between the use of phonics and the general maturity shown by an intelligence test. It is probable that phonics involves certain elements of general maturity, for instance, perception of similarities, auditory imagery, application of generalizations, and the like. Further studies are needed to discover such particular abilities, their development, and their function in the use of phonics. Meanwhile, ways of determining general mental maturity are available, and practical use can be made of the concept of phonic readiness here explained.

SOME ECONOMIC ASPECTS OF ATTENDANCE AT A TEACHERS' COLLEGE

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Various studies have shown that students in teachers' colleges are drawn chiefly from the great middle class of society and from homes that are not favored economically. For example, Moffett,[1] in a study of 1,080 women students in fifteen representative teachers' colleges in various sections of the United States, found that the father of a typical student was the manager of a small business, a skilled workman, or a farmer, with a median annual income of $2,305. Studies conducted in nine states since 1921[2] have revealed practically the same findings as those of Moffet. The median income of the parents of the students reporting varied from $1,775 to $3,321 annually. In five states from 39 to 60 per cent of the students were wholly dependent on their parents for support, and in many cases support was given at undue sacrifice. The other students depended wholly or in part on their savings and earnings or on borrowing.

Since prospective teachers are recruited largely from homes where parental incomes are decidedly modest, it is not surprising that free state institutions for teacher education have been established. These institutions have come to serve not only prospective teachers but also students who desire a general education and whose limited resources would make it impossible for them to attend most of the other types of institutions of higher learning.

In view of this situation it is worth while to ascertain the cost of attending a state teachers' college and to find the ways in which students obtain money for financing their education. This article gives

[1] M'Ledge Moffett, *The Social Background and Activities of Teachers College Students*. Teachers College Contributions to Education, No. 375. New York: Teachers College, Columbia University, 1929.

[2] Benjamin W. Frazier and Others, *Special Survey Studies*, p. 162. National Survey of the Education of Teachers, Vol. V. Office of Education Bulletin No. 10, 1933.

information which was obtained on these two points from 767 students (437 women and 330 men) enrolled in the Eastern Illinois State Teachers College in the winter quarter of 1935–36.

This group of students was probably typical of the student bodies of many state teachers' colleges. Nearly half of them reported that their fathers were farmers. Many of them came from homes that were not economically favored. They stated frankly that one of their leading reasons for attending this college was the fact that it is inexpensive.

The students were asked to answer the following questions concerning some of the economic aspects of attendance at this college.

1. About what do you expect your expenses to be for the nine-month school year? (Include only room, board, and school fees.)

2. About what percentage of the money you are using for your expenses comes from the following sources? (Your total from all sources should be 100 per cent.) (*a*) Father or mother, (*b*) brother or sister, (*c*) other relatives, (*d*) borrowing, (*e*) scholarship, (*f*) your own savings, (*g*) your earnings while attending college, (*h*) other sources (list them).

3. If you are earning part or all of your expenses while attending college, what kind (or kinds) of work are you doing?

There were two reasons why only these items were included: First, it was assumed that most students could accurately estimate these expenses. Second, they ordinarily constitute the major expenditures for most of the students in this college. Minimum fees are $18.50 a quarter, and they include registration, student-activity fee, library fee, supplies, locker and gymnasium fee, and book-rental fee. Tuition is free to legal residents of Illinois who agree to teach in the public schools of the state for a period equal to the time spent in this college.

From Table 1 it will be seen that 52.9 per cent of the students spent less than $200 for room, board, and school fees and that only 8.4 per cent spent $300 or more a year. The median was $182.55. One reason for such low expenses was the fact that 22 per cent of the students lived within five miles of the college, and most of these lived at home and did not pay for room and board. Another reason for low expenses was the fact that a large number of students, men as well as women, did light housekeeping, many of them bringing most of their supplies from home each week. Still another reason may

have been the fact that 94 per cent of the students lived within one hundred miles of Charleston, and many of those who did not live at home remained in Charleston only from Monday morning until Friday afternoon. While the students may in some instances have spent as much for traveling as they would have spent for meals had they remained in Charleston, this expenditure was not, of course, asked for in the students' estimates of expenses. As a matter of fact, traveling expenses were slight for many of the students because they depended not a little on the generosity of motorists for transportation.

TABLE 1

EXPENDITURES FOR ROOM, BOARD, AND SCHOOL FEES FOR NINE MONTHS OF 767 STUDENTS ENROLLED IN EASTERN ILLINOIS STATE TEACHERS COLLEGE IN 1935–36

Expenditures	Number of Students	Percentage of Students
$400–449	15	2.0
350–399	7	0.9
300–349	42	5.5
250–299	103	13.4
200–249	145	18.9
150–199	205	26.7
100–149	79	10.3
50– 99	122	15.9
Not given	49	6.4
Total	767	100.0

From Table 2 it will be noted that the three most frequently mentioned sources from which students obtained money for attending college were father or mother, the student's earnings while in college, and the student's savings. Of the 767 students who answered the questionnaire, 79.4 per cent received money from their parents; and 68.6 per cent of this number obtained more than 50 per cent of their money from this source. Two hundred and seventy-two students (35.5 per cent) earned part of their money while attending college, and 48.9 per cent of this group earned more than half of their expenses. One hundred and ninety students (24.8 per cent) depended wholly or in part on their savings; 26.3 per cent of these obtained more than 50 per cent of their money from this source.

Students who were working while in college mentioned thirty-eight ways in which they earned money. Ways mentioned five times or more, together with the frequency of mention of each, were as follows: National Youth Administration, 109; housework, 27; clerking in a store, 20; office-work, 16; work in the college library, 13; work in restaurant, 8; janitorial work, 7; driving a truck, 6; laboratory assistant, 5.

TABLE 2

DISTRIBUTION OF SOURCES FROM WHICH MONEY FOR COLLEGE EXPENSES WAS OBTAINED ACCORDING TO FREQUENCY OF MENTION BY 767 STUDENTS ENROLLED IN EASTERN ILLINOIS STATE TEACHERS COLLEGE IN 1935–36

Source of Money	Mentioned as Source of 51–100 Per Cent of Expenses		Mentioned as Source of 1–50 Per Cent of Expenses		Total	
	Frequency	Per Cent	Frequency	Per Cent	Frequency	Per Cent
Father or mother	418	68.6	191	31.4	609	100.0
Earnings	133	48.9	139	51.1	272	100.0
Savings	50	26.3	140	73.7	190	100.0
Brothers or sisters	25	16.3	128	83.7	153	100.0
Borrowing	27	31.8	58	68.2	85	100.0
Scholarships	3	3.7	79	96.3	82	100.0
Other relatives	7	21.2	26	78.8	33	100.0
Other sources	15	46.9	17	53.1	32	100.0

CONCLUSION

Any teachers' college with students coming from homes not economically favored must endeavor to meet the problems growing out of this situation, among which are the following: (*a*) assisting deserving students to secure suitable employment; (*b*) supervising housing conditions; (*c*) encouraging co-operative housing and dining-service projects; (*d*) supervising conditions under which students work; (*e*) providing loan funds and scholarships; (*f*) providing adequate counseling service, with particular attention to the problems of the working student; (*g*) aiding students in coming into contact with some of the cultural and social opportunities of which they may have been deprived in their pre-college years.

SELECTED REFERENCES ON ELEMENTARY-SCHOOL INSTRUCTION

III. The Subject Fields—Continued

This list of references is the third of the annual series relating to instruction at the elementary-school level. The first list contains items on the curriculum, methods of teaching and study, and supervision. The second list contains items grouped under the following subject fields: reading, English, spelling, handwriting, the social sciences, and geography. The present list covers the remaining subject fields at the elementary-school level and is the last of the series of three dealing with elementary-school instruction.

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[1] See also Items 209 (Breed and Ralston), 219 (Reid), and 222 (Wahlstrom) in the list of selected references appearing in the April, 1937, number of the *Elementary School Journal* and Item 408 (Connor and Hawkins) in the September, 1937, number of the *Elementary School Journal*.

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A critical discussion of the general values of arithmetic.

563. KNIGHT, F. B. "A Report of Four Studies in Arithmetic," *Journal of Educational Research*, XXX (January, 1937), 325–40.

Studies deal with (1) perceptual value of various configurations of numbers, (2) tridimensional space in primary arithmetic, (3) verbal problems, and (4) illustrations in arithmetic textbooks.

564. MACLATCHY, JOSEPHINE H. "Reclaiming the 'Counter,'" *Educational Research Bulletin*, XVI (April 14, 1937), 85–90.

An analysis of the habit of counting when adding.

565. MARGUERITE, SISTER M. "The Development of Arithmetic as a School Subject," *Catholic Educational Review*, XXXIV (November, 1936), 536–52; "The Influence of Pestalozzi on Early American Arithmetic Texts," ———, XXXIV (December, 1936), 577–88; "Formalization of Arithmetic in the United States, 1860–1890," ———, XXXV (January, 1937), 28–34; "Recent Trends in Arithmetic," ———, XXXV (March, 1937), 159–70; "Reaction against Formalism in Arithmetic, 1890–1919," ———, XXXV (April, 1937), 225–36; "Aims in Arithmetic," ———, XXXV (May, 1937), 284–93.

A series of six critical papers, each accompanied by a bibliography.

566. MORFITT, MARGARET D. K. "Comparison of Individual-concrete Methods and Class Methods in the Teaching of Arithmetic," *British Journal of Educational Psychology*, VII (June, 1937, Part II), 196–203.

Shows the effect of method of teaching (1) on estimating number of spots on a page and (2) on abstract multiplication.

567. *The Place of Mathematics in Modern Education.* Eleventh Yearbook of the National Council of Teachers of Mathematics. New York: Teachers College, Columbia University, 1936. Pp. vi+258.

A series of eight critical papers on the place of arithmetic in the schools.

568. RANDALL, JOSEPH H. "Corrective Arithmetic in Junior High School," *Educational Method*, XVI (January, 1937), 182–85.

Gives the results of an experiment in remedial arithmetic in the junior high school.

569. ROBINSON, ARTHUR E. *The Professional Education of Elementary Teachers in the Field of Arithmetic.* Teachers College Contributions to Education, No. 672. New York: Teachers College, Columbia University, 1936. Pp. vi+193.

A careful report presenting new data on several aspects of preparing teachers of arithmetic.

570. ROGERS, C. F. "Arithmetic and Emotional Difficulties in Some University Students," *Mathematics Teacher*, XXX (January, 1937), 3–9.

A discussion of the possible relation of deficiency in arithmetic to later emotional difficulties.

571. RUCH, G. M., KNIGHT, F. B., OLANDER, E. A., and RUSSELL, G. E. *Schemata for the Analysis of Drill in Fractions.* Educational Psychology Series, No. 3. University of Iowa Studies in Education, Vol. X, No. 2. Iowa City, Iowa: University of Iowa, 1936. Pp. 58.

Presents a systematic general pattern for drill in fractions.

572. SCHORLING, RALEIGH. *The Teaching of Mathematics.* Ann Arbor, Michigan: Ann Arbor Press, 1936. Pp. viii+248.

Contains several excellent chapters dealing with problems of teaching arithmetic.

573. SMITH, DAVID EUGENE. *The Wonderful Wonders of One-Two-Three.* New York: McFarlane, Warde, McFarlane, 1937. Pp. 48.

A fine example of the possibilities of cultural content in arithmetic for the middle grades.

574. SPENCER, PETER L. "Arithmetic: A Basic Social Study," *California Journal of Elementary Education*, V (February, 1937), 144–52.

A critical discussion of the arithmetic program.

575. TAYLOR, E. H. "Preparation of Teachers of Arithmetic in Teachers Colleges," *Mathematics Teacher*, XXX (January, 1937), 10–14.

Presents data showing deficiencies in arithmetic of prospective teachers.

576. WASHBURNE, CARLETON. "Functional Arithmetic," *Educational Method*, XVI (January, 1937), 167–70.

A critical discussion of the bases for selecting arithmetical content.

577. WETHERINGTON, JULIA. "Grade Placement of the Content of Arithmetic," *Elementary School Journal*, XXXVII (September, 1936), 41–46.

An analysis of ten courses of study.

578. WILLIAMS, CLAUDE L., and WHITAKER, RUTH L. "Diagnosis of Arithmetic Difficulties," *Elementary School Journal*, XXXVII (April, 1937), 592–600.

Reports results of individual diagnoses of pupils in Grades IV–VIII.

579. WILSON, DOROTHY W. "Teaching Denominate Numbers and Measures," *Educational Method*, XVI (January, 1937), 177–81.

Gives data showing knowledge of various units of measure. Based on a group of 2,819 children and adults.

580. WILSON, GUY M. "Corrective Load in the Fundamentals of Arithmetic in Grades VI, VII, and VIII," *The Role of Research in Educational Progress*, pp. 234–41. Official Report of the American Educational Research Association, 1937. Washington: American Educational Research Association of the National Education Association, 1937.

Shows the inadequacy of drill on fundamental processes and the need for corrective teaching.

581. WILSON, GUY M., and DALRYMPLE, CHARLES O. "Useful Fractions," *Journal of Educational Research*, XXX (January, 1937), 341–47.

A study of frequency of occurrence of fractions.

582. WILSON, GUY M., and PORTER, EVERETT R. "In the Useful Fundamentals of Arithmetic Is It Possible To Overcome Temporary Lapses in Ability Leading to Steady Increase in Error?" *Journal of Experimental Education*, V (September, 1936), 71–74.

An attempt to check the study by Knight and Ford ("Temporary Lapses in Ability and Error in Arithmetic," *Elementary School Journal*, XXXII [October, 1931], 111–24), which dealt with some causes of error in multiplication.

583. YELDHAM, FLORENCE A. *Teaching of Arithmetic through Four Hundred Years (1535–1935)*. London: George G. Harrap & Co., Ltd., 1936. Pp. 144.

A brief historical survey.

SCIENCE

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This bibliography on science in the elementary school includes articles, brochures, research studies, and books published during the interval of June, 1936, to June, 1937. This interval has been comparatively productive of well-thought-out materials that either are research or are using the findings of research. One notes that increasing emphasis is being placed on the development of content which is within the child's range of interest and experience. Such phrases as "discovery of how things work by actually working with the materials" are more common than formerly. One notes also the emphasis that is being given to the development of critical thinking and scientific attitudes in young children through their science work. More and more materials offer opportunity for children to participate in directing instruction. This reviewer is glad to report the almost complete absence of controversial issues that have so long acted as barriers to the development of science in the elementary school.

584. ARNOLD, HERBERT J. *The Selection, Organization, and Evaluation of Localities Available for Unspecialized Field Work in Earth Science in the New York City Region*. New York: Teachers College, Columbia University, 1936. Pp. vi+230.

A Doctor's dissertation in the nature of a fieldbook on earth science. Teachers in the New York City region will find it of particular value in field excursions. This study will be helpful to workers in other localities as an illustration of techniques that might be applied in other regions. Many of the generalizations from the field of geology presented in the study have application in the elementary school and may be used in curriculum construction.

585. BEAUCHAMP, WILBUR L., FOGG, HARRIET M., CRAMPTON, GERTRUDE, and GRAY, WILLIAM S. *Science Stories*, Book III. Chicago: Scott, Foresman & Co., 1936. Pp. 256.

The third book in a series of readers in elementary-school science.

586. BRUCE, G. V. "Elementary School Science References and Instructional Materials," *Science Education*, XXI (February, 1937), 31–34.

A very complete bibliography of reference materials in science for children. Covers the fields of astronomy, geology, and weather.

587. CRAIG, GERALD S. "Science in the Elementary School," *International Understanding through the Public-School Curriculum*, pp. 177–84. Thirty-sixth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1937.

A discussion of the role that science can play in the development of desirable social attitudes. The author shows that scientific knowledge is international in origin and scope and that much of the content of elementary-school science may be used to develop international understanding. Five illustrative centers of interest in science that might be used to this end are included.

588. CRAIG, GERALD S. "Science and Elementary Education," *Teachers College Record*, XXXVIII (May, 1937), 660–77. (Free reprints available to teachers from Ginn & Co.)

A discussion of the place of science in the changing conception of elementary education. Values for the teacher are stressed. "If the teacher thinks deeply into the educational values, the instruction is more likely to be well poised, balanced, and challenging. In this sense, the values in education a teacher accepts may be as significant in instruction as the content involved." In developing this theme, the author clearly defines the role of the conception in science and shows by illustration how it may grow in the child's understanding through the elementary-school years.

589. CROXTON, W. C. *Science in the Elementary School.* New York: McGraw-Hill Book Co., Inc., 1937. Pp. xii+454.

A textbook on the teaching of science in the elementary school. Part I consists of eight chapters on the place of science in the elementary school, methods of teaching, research contributions, etc. Part II, the major portion of the book, consists of suggestions for an activity program. These activities are intended as source materials for the teacher and are organized according to seasonal use. This reviewer wishes that more activities from the physical-science fields had been included.

590. CUMBERLAND, MARYELLEN. "Soils," *Grade Teacher*, LIV (November, 1936), 16–17, 53.

A description of a unit, with outline, on soil erosion and soil conservation.

591. CURTIS, FRANCIS D. "Some Exercises Designed for Teaching Scientific Attitudes in the Intermediate Grades," *NCES News Notes*, IV (May, 1937), 173–77. Salem, Massachusetts: National Council on Elementary Science (W. G. Whitman, Managing Editor, % State Teachers College).

An interesting account of several activities designed to teach scientific attitudes to children in the elementary school. There will be few teachers who, after reading this article, will not want to try out these or similar exercises in their own classes.

592. EASTLACK, LOLA F. "A Sixth-Grade Unit in Astronomy," *Science Education*, XXI (February, 1937), 24–27.

A description of a unit in Grade VI of an elementary school in Washington, D.C.

593. FRUTCHEY, FRED P. "Evaluation in Elementary School Science," *Educational Method*, XVI (May, 1937), 422–26.

A discussion of some of the problems encountered in the critical evaluation of the science work in the elementary school. Four steps in the evaluation program set forth are considered: formulating the objectives of teaching, clarifying the objectives by expressing their meaning in terms of pupil behavior, obtaining a record of pupil behavior, and interpreting the behavior.

594. GARVEY, MARY L. "Shadows Are Like Clocks and Calendars," *Science Education*, XX (December, 1936), 196–99.

An interesting presentation of science activities for Grade I in a Minneapolis school.

595. HETHERSHAW, LILLIAN. "How Seeds Are Scattered," *School Science and Mathematics*, XXXVI (October, 1936), 708–14.

A discussion of seed dispersal, with much factual material and suggestions on how it may be used with children.

596. HULTZ, HELEN LORRAINE. "Mushrooms: A Third-Grade Project," *Science Education*, XXI (February, 1937), 17–21.

A description of a project in science with Grade III in the Fox Meadow School, Scarsdale, New York.

597. LAMMEL, ROSE. "Science as a Part of Living in the Elementary School," *Educational Method*, XVI (May, 1937), 417–21.

An account of the place of science in the University Elementary School of the Ohio State University and of how science experiences are giving children the opportunity to recognize problems, to relate those problems to larger problems and activities, to develop means of solution, and to recognize the applications of this scientific principle to other problems.

598. NEUNER, ELSIE FLINT. "The Science Room in Elementary Schools," *Educational Method*, XVI (May, 1937), 432–34.

A practical account of the uses to which the special science rooms are put in the elementary schools of New Rochelle, New York.

599. PALMER, E. LAURENCE. "A Comparative Study of Nature Education Philosophies," *School Science and Mathematics*, XXXVI (November, 1936), 897–906.

Presents some of the points of difference between nature-study and elementary science.

600. PODENDORF, ILLA. "Man's Use of Rocks and Minerals from Our Earth," *School Science and Mathematics*, XXXVII (March, 1937), 280–82.

An outline and description of a unit of instruction in Grade IV at Newton, Iowa.

601. POWERS, SAMUEL RALPH. "Influences of Science on Human Activities with Implications for Education," *Educational Method*, XVI (May, 1937), 395–401.

A presentation of some of the major social changes that science and technology have brought about and a consideration of these changes in terms of human desires and activities resulting from these desires. After considering the various areas of thought influencing intellectual life, the author deals in some detail with the contributions from the field of science that have influenced and are still influencing man's intellectual progress. While this article is not especially directed to workers in science at the elementary-school level, it nonetheless has implications for these workers.

602. *Science Guide for Elementary Schools*, Vol. III. Sacramento, California: California State Department of Education, 1936–37.

A series of ten science guides prepared by specialists in the state teachers' colleges with the co-operation of classroom teachers. The guides are published monthly from August to May, inclusive, and the subscription price is $1.25 a year.

603. SELBERG, EDITH M., and BARNARD, J. DARREL. "Teaching Pupils the Method of Solving Problems," *Educational Method*, XVI (May, 1937), 413–16.

"If the individual is to take part in the planning of his social destiny and if he is to become an independent thinker, he should be allowed and encouraged to do his own planning for the solution of the problems that originate with him." The authors offer concrete assistance to teachers on how this objective might better be realized. Teachers who have a progressive point of view and who question the "unit of instruction" will find in this article a reasonable means of developing and using the unit.

604. WRIGHT, MARY H. "Coal and Its By-products," *Grade Teacher*, LIV (January, 1937), 14–15.

A description of a science-geography unit for the intermediate grades.

MUSIC[1]

ANNE E. PIERCE
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605. *Course of Study in Music for Rural Schools*. Music Education Research Council Bulletin No. 19. Chicago: Music Educators National Conference (64 East Jackson Boulevard), 1936. Pp. 18.

Although this course was constructed primarily for rural schools, it is useful for small urban systems. The bulletin contains a brief general statement of the status of music education in rural schools; aims of music education; vocal music;

[1] See also Item 448 (Seashore) in the list of selected references appearing in the September, 1937, number of the *School Review*.

instrumental music; interschool musical activities; circuit music teachers; and guidance through, and use of, phonograph and radio. It also describes aims, procedures, and materials of different phases of instruction.

606. FUNKHOUSER, MARGARET. "Music at Shady Hill School," *Progressive Education*, XIV (April, 1937), 243–45.

Discusses plans and procedures of a course in music for boys and girls ranging in age from five to fifteen years. Activities described are vocal, instrumental, appreciational, and rhythmical in nature.

607. GARTH, THOMAS R., and CANDOR, ETHEL. "Musical Talent of Mexicans," *American Journal of Psychology*, XLIX (April, 1937), 298–301.

A résumé of an experiment to discover whether some races are more musical than others. Findings were based on results of the Seashore Measures of Musical Talent, which, according to the investigators, revealed that Mexicans are inferior to whites in sense of pitch but superior in sense of rhythm.

608. GEHRKENS, KARL W. "A Course of Study in Music—Grades 1, 2, 3," *Music Educators Journal*, XXIII (September, 1936), 27–30.

The first report of a course of study in music for all grades from preschool and kindergarten to final years of senior high school now being constructed by the Research Council of the Music Educators National Conference. The present article deals with objectives, voice, rhythm, attitude, appreciation, sight singing, ways and means of attaining objectives, evidences of growth and achievement, correlation and integration, individual differences of pupils, and materials.

609. HENRICKSON, VELMA W. "Enriching the School Program with Creative Music," *Music Educators Journal*, XXIII (September, 1936), 31–33.

A report of a project in creative music in which classroom teachers co-operated with the special music, or "key," teacher to develop original melody-making by young boys and girls.

610. HIGGINSON, J. H. "The Associational Aspect of Musical Response in School Children," *Journal of Educational Psychology*, XXVII (November, 1936), 572–80.

An experiment, dealing with 210 boys of ten to fourteen years of age, to ascertain nature of associations formed when listening to instrumental music of various types. Results indicate that there are generally associations both relevant and irrelevant to the music. The cinema is a potent factor in the affective development of the child.

611. *Music Supervision in the Public Schools.* Music Education Research Bulletin No. 18. Chicago: Music Educators National Conference (64 East Jackson Boulevard), 1936. Pp. 10.

Gives an overview of supervision in music in public education. Part I deals with origins, trends, functions, and characteristics of supervision. Part II discusses the forms of organization and the function of the administrator and supervisor and gives illustrative types of supervisory programs.

612. PAINTER, FLORENCE M. "An Experiment in Character Education through Musical Experience," *Educational Method*, XVI (April, 1937), 363–68.

Tells how music in a school in Washington is used to preserve individuality of children and to help each child achieve the best development of his own character.

613. SEASHORE, CARL E. "The Psychology of Music. V, Measurement of Musical Talent: The Eastman Experiment," *Music Educators Journal*, XXIII (December, 1936), 24–25.

An appraisal and an explanation of the plan by the originator. Gives practical suggestions to teachers and parents on how findings of the Seashore Measures of Musical Talent may be used.

614. SMITH, RUSSELL B. "A Basic Concept for Music Education," *Music Educators Journal*, XXIII (October, 1936), 19, 28.

Presents an evaluation of traditional teaching procedures, with suggestions on how music instruction may be improved.

615. SWISHER, AMY M., and KELLER, EDITH M. *Art and Music Education*. Columbus, Ohio: Ohio Congress of Parents and Teachers (Edith M. Keller, % State Department of Education), 1937. Pp. 20.

The second part of the monograph deals with music education. Discusses adult participation in music and support of music education in the schools and gives a good list of suggested music materials for choral work at various levels of instruction.

ART[1]

W. G. WHITFORD

616. *Art Education Today*. Sponsored by Members of the Fine Arts Staff of Teachers College, Columbia University. New York: Teachers College, Columbia University, 1937. Pp. 100.

The third issue of the annual publication dedicated to the memory of Arthur W. Dow. Discusses theories and practices of art education in various schools and summarizes trends in art education.

617. CLARK, CLYDE C. *Modern Pioneers*. Dallas, Texas: Practical Drawing Co., 1936. Pp. 302.

Discusses practical applications of the arts and crafts in homes, schools, and communities, particularly in small towns and rural districts.

618. HUNGERLAND, HELMUT. "Self-discovery through Painting and Drawing," *Progressive Education*, XIV (April, 1937), 260–67.

[1] See also Item 216 (Miller) in the list of selected references appearing in the April, 1937, number of the *Elementary School Journal* and Item 337 (Meier) in the May, 1937, number of the *School Review*.

Discusses the development of children, as revealed through studies of their drawings and paintings, in a small private suburban school of Berlin, Germany.

619. MERRY, RUTH C. "Enjoyment of Art in Everyday Life," *School Arts Magazine*, XXXVI (March, 1937), 389–91.

An interesting discussion of art as a phase of living, from the appreciative approach, from the creative approach, and from a combination of both.

620. MITCHELL, EDITH L., and SMITH, J. B. "Curriculum Investigations: Art." *Review of Educational Research*, VII (April, 1937), 128–30, 189–91.

Summmarizes outstanding investigations in the field of the art curriculum and related art subjects. Presents a bibliography of sixty-four topics pertaining to the field of curriculum development in the arts.

621. MUNRO, THOMAS. "Art Museum Work with Children." *School Arts Magazine*, XXXVI (October, 1936), 122–24.

Discusses types of art work which children enjoy in an art museum and methods for developing an understanding and appreciation of the objects observed.

622. NARAMORE, ELISABETH. *William and His Friends*. New York: Viking Press, 1936.

A picture-book for children showing twenty-seven animal figures, some sculptured and others of blown glass and wrought iron, from the Metropolitan Museum of Art, New York City. A brief explanation accompanies each figure or group of figures.

623. NICHOLAS, FLORENCE WILLIAMS; MAWHOOD, NELLIE CLARE; and TRILLING, MABEL B. *Art Activities in the Modern School*. New York: Macmillan Co., 1937. Pp. xvi+380.

Methods, devices, and techniques, with emphasis on educational principles, are interpreted in terms of art-teaching. Art experiences from the kindergarten through the high school are included. Supplies an excellent bibliography.

624. PERRINE, VAN DEARING. *Let the Child Draw*. New York: Frederick A. Stokes Co., 1936. Pp. 88.

A book for parents and educators dealing with the expressive ability of children through drawing. Furnishes a "guide that enables them to recognize the values of a child's efforts to draw and to enrich the lives and characters of their children through understanding encouragement of this instinctive urge."

625. RAYNER, EDWIN. *Famous Statues and Their Stories*. New York: Grosset & Dunlap, 1936. Pp. 80.

Presents a comprehensive yet brief story of sculpture through the ages. Illustrated with 230 important works characteristic of the various periods of art.

626. *Record of the Convention of the Western Arts Association at Toledo, Ohio, 1937*. Western Arts Association Bulletin, Vol. XXI, No. 4. Indianapolis, Indiana: Western Arts Association (Harry E. Wood, Secretary, 5215 College Avenue), 1937. Pp. 160.

The keynote of the convention was "Living in the Arts." Discusses programs for developing art in elementary and secondary schools, in colleges, in teachers' colleges, and in W.P.A. projects for adults.

627. TIBBELS, AVERIL. *The Circus Comes to School.* New York: A. S. Barnes & Co., Inc., 1937. Pp. xii+242.

Describes in detail the development of a circus project as a type of entertainment for elementary schools. The book is based on the hypotheses: (1) that the circus has a universal appeal to participants and spectators alike, (2) that it presents a never-ending group of activities, (3) that it is an outgrowth of pupil interests, (4) that it provides opportunities to utilize physical-education activities, and (5) that it automatically becomes a school activity.

628. WHITFORD, WILLIAM G. *An Introduction to Art Education.* New York: D. Appleton-Century Co., Inc., 1937 (revised). Pp. xx+392.

Presents a survey of modern objectives, curriculum-planning, and methods of teaching, with emphasis on integration, creative-educational approach, and the unit conception of organization and administration of subject matter. Extensive bibliography and guide-sheet material covering more than a thousand references to current literature on art education.

629. WINSLOW, LEON LOYAL. "Art Integration in the Elementary School," *American Childhood*, XXII (September, 1936), 5–7.

A review of the integration movement in relation to public-school art education.

630. WINSLOW, LEON LOYAL. "Functional Art Education," *School and Society*, XLIV (November 14, 1936), 645–48.

Discusses the functional importance of art in social and economic life. Suggests that art expression, appreciation, and broad cultural experiences are of vital import in the modern school curriculum.

INDUSTRIAL ARTS[1]

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631. ASHLEY, L. F. "The Scientific Method and Historical Research," *Industrial Arts and Vocational Education*, XXVI (June, 1937), 173–75; "Documentary Methods and Techniques for Data Gathering," ——— (July, 1937), 209–11; "Research Possibilities in the Laboratory Organization," ——— (August, 1937), 235–36; "Opportunities for Historical Studies in Industrial-Arts Education," ——— (September, 1937), 266–67.

These four articles serve industrial teachers and persons who provide initial and advanced preparation for industrial-education positions. Graduate stu-

[1] See also Item 34 (Smith) in the list of selected references appearing in the January, 1937, number of the *School Review*.

dents particularly and administrative officers interested in industrial education are likewise aided. The series provides insight into the need and the possibility of research in this subject area. Gives suggestions concerning types of study, sources of data, techniques, and methods of reporting.

632. BROOME, EDWIN CORNELIUS. "A Basic Plan for Industrial and Vocational Education," *Industrial Education Magazine*, XXXIX (March, 1937), 65–72.

Selected paragraphs from the annual report of the author as superintendent of schools in Philadelphia. Changing educational philosophy, values of industrial schools and classes, curriculums for various levels, definite suggestions for content and procedure for different ability groups are among the subjects treated.

633. CASWELL, WILLIAM EARNEST. "What Units Shall We Offer in Industrial Arts?" *Industrial Education Magazine*, XXXIX (May, 1937), 123–27.

Census data are used to show the range of work types which need to be sampled or explained through industrial-arts instruction. The problem of how to select the most worthy curriculum units is advanced, and helpful suggestions are made.

634. COX, GEORGE B. "What Next in Progressive Education?" *Industrial Arts and Vocational Education*, XXVI (July, 1937), 207–9.

An informative and easy discussion of modern practice and trends, together with anticipation of specific developments in elementary-school, junior high school, senior high school, and junior-college years.

635. DAVIS, ED. "Trends in Methods, Organization, and Selection of Subject Matter for the General Shop," *Industrial Education Magazine*, XXXIX (January, 1937), 25–30.

Report of a questionnaire study in which sixty teachers, supervisors, and teacher-trainers in ten states participated. An extensive bibliography on general-shop administration and procedure is a real contribution.

636. FRANCIS, THOMAS. "The Laboratory Shop of the Small Rural High School," *Phi Delta Kappan*, XIX (April, 1937), 257–60.

A unique statement of how the problems of the small school are met through multiple-use rooms and through community co-operation. Here is a fine example of close-knit, functioning co-ordination. The article is accompanied by a plan of a composite room wherein industrial-arts and general-science courses or units are presented.

637. HINDERMAN, ROY. A "Industrial-Arts Adjustment Possibilities and Vocational Education," *Industrial Arts and Vocational Education*, XXVI (September, 1937), 263–65.

A pointed statement of the demands now made on working youth, with suggestions of new services to be rendered these youth through industrial-arts instruction.

638. MOE, M. P., and BROCKMANN, L. O. *Utilizing Community Resources for Vocational Guidance and Training.* Helena, Montana: M. P. Moe and L. O. Brockmann (Box 217), 1937. Pp. 56.

A bulletin true to its title and particularly suggestive for administrators of small and medium-sized school systems. Plans and results of a successful type of program which combines school and work experiences are indicated in detail.

639. PARR, KENNETH EARL. "Analysis of Essential Factors in the Shop Demonstration," *Industrial Education Magazine*, XXXVIII (November, 1936), 273–74.

In view of the fact that the demonstration is a major element of method in shop-teaching, teachers will be interested in the list of forty-eight suggestions here made.

640. "Report of National Conference on Trade and Industrial Education, Minneapolis, August 17–28, 1936." United States Office of Education, Vocational Division, Miscellaneous 1853, 1936. Pp. 232 (mimeographed).

Full reports of the general sessions and the committee conferences concerning laws and administrative practices in federally aided trade and industrial schools and classes. New fields of training, co-ordination, teacher training, supervision, conference-leading techniques, and apprenticeship are illustrative of the topics discussed.

641. "School Shop Annual" *Industrial Arts and Vocational Education*, XXVI (March, 1937), 69–110 and 1A–70A.

The "School Shop Annual" is a feature and a high light in the growing literature of industrial education. The present number contains four special articles on "The School Shop," five on "What Others Are Doing," six on "Courses and Instruction Sheets," five on "Shop Management," three on "Supervision," and one each on "Shop Layouts," "Safety," and "Guidance." In addition, there are the characteristic equipment lists, advertisements of tools, machines, and supplies, etc.

642. SCHWEICKHARD, DEAN MERRILL. "Implications for Industrial Arts in the New Federal Legislation for Vocational Education," *Industrial Education Magazine*, XXXIX (May, 1937), 136–40.

An excellent article reviewing recent changes in school organization and the consequent reshaping of offerings and practices in industrial education. Chief attention is given to matching community needs, meeting pupil abilities and desires, providing functional subject matter, and securing properly qualified teachers.

HOME ECONOMICS[1]

BEULAH I. COON
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643. *Course of Study for Elementary Schools*. Denver, Colorado: State Department of Education, 1936. Pp. 724.

The program for home and community life for Grades I–IV outlines content for each grade and the outcomes to be expected.

[1] See also Item 182 (Andrus and Associates) in the list of selected references appearing in the April, 1937, number of the *Elementary School Journal*.

644. FAULKNER, MARY. "Occupational Practice House," *Baltimore Bulletin of Education*, XIV (September, October 1936), 58–59.

An account of the work done in home economics through the "Occupational Practice House" with over-age pupils of fourteen and fifteen who, unable to keep up with the normal children of Grades V and VI, have become difficult to handle or tend to resort to truancy.

645. HARRIS, RHODA. "Homemaking in the Little Red Schoolhouse," *Education*, LVI (April, 1936) 463–65.

Brings out the value of an activity program for young children.

646. *Home Economics Education in Junior and Senior High Schools, 1936.* Olympia, Washington: State Department of Education, 1936. Pp. 106.

Outcomes to be achieved, suggested problems and procedures, pupil experiences, and subject matter for home economics in Grades VII and VIII deal with "Helping with Work at Home," "Helping with Food Preparation and Service," "Caring for Young Children," and "Helping with Clothing Problems." A part of the home-economics course of study for junior and senior high schools, issued in loose-leaf form to allow for additions or changes based on critical use.

647. HOWE, FLORENCE R. *Budgeting—the Arithmetic of Finance.* Teachers' Lesson Unit Series, No. 88. New York: Teachers College, Columbia University, 1936. Pp. 36.

Describes the procedure in developing a unit on the family budget for sixth-grade girls and boys at the Cobbet Elementary School, Lynn, Massachusetts.

648. KINYON, KATE W., and HOPKINS, L. THOMAS. *Junior Home Problems.* Chicago: Benj. H. Sanborn & Co., 1936 (revised). Pp. viii+310.

A revision of a junior high school textbook based on criticisms solicited from pupils, parents, and teachers. The units, adjusted to real life-situations, are aimed to give pupils a consciousness of their responsibilities in both family and community life and to create a desire for healthful habits of living.

649. MCBAIN, MABEL. "Opportunities for Progressive Home Economics in the Elementary Schools," *Practical Home Economics*, XV (May, 1937), 155–56, 182.

The present-day organization of the elementary school indicates that the home economist has both an opportunity and an obligation to supply elementary teachers with helpful materials on home and family life, to participate in the integration of the work of the elementary school, and to encourage teachers' colleges to make home economics a part of the general training of the elementary teacher and to provide general courses in elementary-school work for those specializing in home economics.

650. MINOR, RUBY. *Early Childhood Education.* New York: D. Appleton-Century Co., Inc., 1937. Pp. xx+764.

The chapters on health and physical education, social studies, nature-study, science, and art are integrated with home activities and contain suggestions

for units on good eating and other health habits and the building and furnishing of a playhouse.

651. *Practical Arts: Social Group Representation.* New York State University, Elementary Education Division. Albany, New York: University of the State of New York Press, 1936. Pp. 14.

Several activities to be planned and carried out by the children center in home life in various parts of the world and illustrate differences in food, clothing, and shelter.

652. STIGLER, W. A. *Handbook for Curriculum Development.* Bulletin of the State Department of Education, No. 354, Vol. XII, No. 2. Austin, Texas: State Department of Education, 1936. Pp. 200.

The statement submitted by the Homemaking Committee of the Practical Arts Division, which is included in this volume, deals with the interests, activities, and needs of children of elementary-school age as they relate to home and family life and gives suggestions for using these in making a fused program for the various grades.

653. TABOR, MARJORIE. "Home and Farm Life—A Unit of Work in First Grade," *Educational Method*, XVI (November, 1936), 75–77.

Describes the activities of beginning pupils, many of which centered in the making of a dollhouse and its furnishings and the dressing of dolls, and enumerates the educational outcomes of these and other activities.

654. TIPPETT, JAMES S., IN COLLABORATION WITH THE COMMITTEE OF THE PARKER SCHOOL DISTRICT, GREENVILLE, SOUTH CAROLINA. *Schools for a Growing Democracy.* Boston: Ginn & Co., 1936. Pp. viii+338.

In the Parker School District effort is directed toward making the classrooms "replicas of life" which provide opportunities for individual self-finding and experiences in social living. Among other activities, a study in textiles for Grade V is outlined.

655. VAN LIEW, MARION S. "A Philosophy of School Lunch Management," *Practical Home Economics*, XV (April, 1937), 128–30.

The school lunch is conceived as one of the essential provisions for teaching pupils good habits of nutrition and of eating. It is therefore as much of an administrative responsibility as that of furnishing the classrooms and supplying other learning facilities. The home-economics teacher needs to play an important part in assisting with these pupil learnings.

656. WOODWARD, MARION B. "An Outline for Teaching Housing," *Practical Home Economics*, XIV (September and October, 1936), 263, 290; 316–17.

An outline set up by a home economist dealing with some of the basic problems in housing and including suggested pupil experiences and helpful reference materials. Emphasis is given to the sociological and health phases of the subject, to national and local housing programs, and to factors important in programs for improvement of individual family housing.

LIBRARY TRAINING

EVANGELINE COLBURN

657. "Annual Meeting, 1936, American Library Association, School Libraries Section," *American Library Association Bulletin*, XXX (August, 1936), 766–82.

The papers presented pertain chiefly to high-school libraries but contain a great deal which should prove valuable to anyone interested in library training. "Integration and Library Instruction" is discussed, and views on the value of library exhibits are given.

658. JULIAN, KATHERINE L. "Check Exercises Based on a Book Unit," *Instructor*, XLVI (November, 1936), 48, 73.

Outlines self-checking lessons based on a book unit for intermediate and upper grades.

659. JULIAN, KATHERINE L. "Learning about Books," *Instructor*, XLVI (November, 1936), 34, 36, 38, 42.

Suggested procedures for helping children acquire the library habit. General objectives and sample lessons are given for primary, intermediate, and upper grades.

660. TREDICK, FLORENCE H. "At Work with Books," *Elementary English Review*, XIII (November, 1936), 255–56.

A brief description of training given children in the use of books in library and classrooms.

HEALTH AND PHYSICAL EDUCATION

D. K. BRACE
University of Texas

661. BENT, M. J., and GREEN, ELLEN F. "An Experiment in Health Education," *Journal of Health and Physical Education*, VII (October, 1936), 486–88, 527–28.

Report of an experiment in health education in negro colleges and elementary schools of Nashville, Tennessee. Marked improvement in health habits resulted from the improvement of dietary and sanitary conditions.

662. CALVER, HOMER N. "Shall Health Education Be Carried on by Health Workers or by Paid Advertising?" *Trained Nurse and Hospital Review*, XCVII (July, 1936), 60–62.

A stimulating article dealing with the importance of the right sort of health instruction.

663. COTTERAL, BONNIE and DONNIE. *The Teaching of Stunts and Tumbling*. New York: A. S. Barnes & Co., Inc., 1936. Pp. xvi+338.

A revision of a previous book, with special emphasis on teaching method and class organization.

664. GROUT, RUTH E. (Editor). *Handbook of Health Education.* Garden City, New York: Doubleday, Doran & Co., Inc., 1936. Pp. xxii+298.

An outline of a program of health education for small rural schools.

665. JEFFREY, BILL. *The Boys with the Educated Feet.* Minneapolis, Minnesota: Burgess Publishing Co., 1936 (revised). Pp. 86.

An excellent book for the teacher who wishes to learn more about the teaching of soccer football.

666. LIPOVETZ, FERDINAND JOHN. *A Recreation and Sports Handbook for Playground, School, Community and Camp.* Minneapolis, Minnesota: Burgess Publishing Co., 1936. Pp. 418.

A comprehensive book on sports and recreational methods, which will serve as an excellent teaching aid.

667. ROOD, ELMA. "A Program of Training Teachers in Service," *Journal of Health and Physical Education,* VII (September, 1936), 427–29, 456–57.

A report of the use in a rural community of the health problems of children in connection with the training of teachers.

Educational Writings

REVIEWS AND BOOK NOTES

Academic freedom in the lower schools.—The college has long been thought of as the level at which arise the issues of academic freedom; the college professor, as the person chiefly involved. Invited by the American Historical Association to undertake a study of this problem in teachers' colleges and schools below college grade, Professor Beale doubted that enough material existed to make a volume. The outcome was, however, a mountain of material compressed with difficulty into two volumes, plus the revelation that freedom of teaching at all levels is a fundamental social problem.

In the second of these two volumes,[1] two chapters define the problem and give historical background. Eight chapters analyze specific topics concerning which problems of free teaching are peculiarly acute, for instance, war, internationalism, patriotism, and economic problems. Seven more chapters cover censorship of textbooks, regulation of teacher conduct, violations of tenure, and similar items. Three chapters present the persons or the groups from whom come pressure and interference. These three combine admirably with the preceding chapters by relating the interested persons and pressure groups to the specific points of interference in the curriculum and the conduct of the schools. The three final chapters are forceful and inspiring analyses of the relation of freedom to education, of means of increasing freedom, of the necessity for sane definition of freedom, and, significantly, of the relation of teacher training to freedom.

No body of case materials exists. Professor Beale was forced to make an unbelievably extensive search of newspaper and periodical files and of collections of clippings, to engage in voluminous correspondence and in far-flung interviewing. These methods of research will draw fire immediately, especially from persons who, disliking the data and the conclusions, have no data in refutation. Ultra-conservatives, professional patriots, and verbalists generally are likely to raise a large hullabaloo about the "subjectivity" of the study. The careful reader will see through this smoke screen and inquire how the subjective methods were utilized.

[1] Howard K. Beale, *Are American Teachers Free? An Analysis of Restraints upon the Freedom of Teaching in American Schools*. Report of the Commission on the Social Studies of the American Historical Association, Part XII. New York: Charles Scribner's Sons, 1936. Pp. xxiv+856. $3.50.

Professor Beale has expounded at length the pitfalls and the defects of these research techniques. He has gone far beyond the demands of ordinary impartiality in leaning backward while interpreting his data. His documentation is almost overwhelming in its meticulous detail. Both sides of the case have been presented with the same incisive, merciless citation of names, places, dates, page references, authenticated quotations, and remarks. Side by side with dark pictures of arrogant interference with freedom, of stupid repression, of cowardice and dishonesty in school officials, there stands a bright picture of courageous resistance to interference, of willing sacrifice for standards, and of intelligent defense of teachers by enlightened boards of education. The bright picture is far smaller than the dark one, but it is faithfully reported. As final earnest of the investigator's scholarly impartiality, there is scathing indictment of part of the teaching body for naïve ignorance of the social problems involved; for complacent stupidity in the face of attack on a fundamental of education; and for selfish confusion between academic freedom and exhibitionism involving personal idiosyncrasy and naïve gaucherie, between freedom and cases involving plain bad manners and lack of tact. Sharp criticism of traditional aims and techniques of teacher training, together with an enlightening discussion of freedom in relation to level of training, is found.

The author concludes that freedom of teaching is not and cannot be an issue. The real problem is: "Dare society face the consequences of *not* permitting the teachers of the next generation complete freedom" (p. 778).

The volume will undoubtedly become a standard source book. Educational associations could well afford to finance wide distribution throughout the country.

WILLIAM H. BURTON

UNIVERSITY OF SOUTHERN CALIFORNIA

How to teach.—The teacher's business is to formulate, or to direct the formulation of, goals; to see that pupils are interested; to provide materials for them to work with; to keep them at the job with a song in their hearts; to direct their study; to check progress; to help pupils measure themselves; and to provide opportunities for them to use their learnings realistically. At least, that is the way a city superintendent sees it and presents it in a short, well-written book on general method.[1]

Goals, aims, or objectives, in their specific forms at least, must be the same for teacher and for pupils. The teacher, of course, usually sees them first; then she entices the pupils into happy acceptance. Pretesting and diagnosis help define the goals. Apparently goals are usually things to be learned, and pupils not infrequently have to be made to take interest in learning them. The teacher evokes interest by touching off some common human motive, such as curiosity,

[1] L. John Nuttall, *Teaching Purposes and Their Achievement.* New York: Charles Scribner's Sons, 1936. Pp. x+290. $1.80.

acquisitiveness, emulation, combativeness, desire for social approval, dislike for disapproval, the urge to manipulate and construct, and the urge for activity and play. Once interested or motivated, pupils must have subject matter to sustain them in their eager race toward their goals. For the best results the subject matter should be organized into problems, or into large units, or hooked up with natural activities. Real work begins when directions (the assignment) are issued. The author gives eighteen advices on the assignment. Instruction must be individualized by the use of contract plans, socialized group work, ability grouping, Winnetka techniques, or otherwise. The direction of study is the core of the teacher's task. Ways of directing study will differ as aims differ, that is, according to whether the learnings sought are skills to do, definitions and rules, information and understanding, assurance of reality, or appreciation. Lectures, silent reading, discussion, perceptual experiencing, and appeal to emotions—all have their places and their appropriate techniques. All along there must be testing to see how things are coming and to help pupils appreciate themselves. Finally, pupils who have learned must be given a chance to express their learnings in situations as lifelike as possible.

Thus the end of the teaching process as set forth in this book is really what ultra-progressives think of as the beginning, the end, and pretty much the whole of the educative process. The author, however, is not an ultra-progressive. He is, one judges, a practical school man who desires to go in the general direction pointed out by modern educational scouts but who would himself prefer to march somewhere in the front ranks of the troops rather than deploy with the scouts themselves. The illustrations of teaching practices which he gives approvingly are drawn from teachers' reports and from his own supervisory observation. They are not particularly striking, but they may be helpful. To me the account of the teaching of "Little Boy Blue" to a second-grade class is disturbing. This poem is an adult poem, and the effort to wring the hearts of seven-year-old children with it seems atrocious.

The book is addressed to teachers and prospective teachers. For prospective teachers it is too short, too general, and too reticent about where to go for further elaboration of its concepts. I would recommend it to Mr. Nuttall's fellow-superintendents, to teachers in service, and to professors of education who wonder whether they are "getting their stuff across."

M. H. WILLING

UNIVERSITY OF WISCONSIN

Mental hygiene in the classroom.—Teachers who have not been able to view the problems of mental hygiene with equanimity because of the prevalent tendency to become disturbed by the contemplation of the grosser forms of mental abnormality will be pleased with a book which attempts to apply the principles of mental hygiene to classroom teaching by emphasizing the positive aspects of pupil adjustment.[1]

[1] Harry N. Rivlin, *Educating for Adjustment: The Classroom Applications of Mental Hygiene.* New York: D. Appleton-Century Co., Inc., 1936. Pp. xiv+420. $2.25.

The author begins by summarizing the psychological principles which the teacher must understand in order to make the classroom contribute to the mental health of the pupils. The nature of emotional stability is presented as the prime essential for adjustment, followed by a description of the interpretations of problem behavior by Freud, Jung, Adler, the behaviorists, the gestaltists, and the psychobiology of Adolf Meyer.

This theoretical presentation is followed by a discussion of the personality and environmental factors which serve as a background of problem behavior. These factors include mental ability, physical health, sex education, economic conditions, recreational facilities, neighborhood contacts, and religion.

The last third of the book is devoted to practical applications of mental-hygiene principles. The author gives specific directions for the modification of classroom discipline, explains how traditional means for motivating children must be altered, and points out the harm that may come from unwise punishment of children. His final plea is for the adjustment of the teacher in order that proper pupil-teacher relations may obtain.

For the last decade the emphasis in mental hygiene has been changing from the need for the establishment of more and more clinics to the need for prevention of mental maladjustments through education. Clinicians have discovered that, although they may diagnose problem behavior in children, treatment must be delegated to the teacher. Mental health cannot be imparted to children through clinical interviews. Instead, an atmosphere must be created in the school that will enable children to get a proper outlook on life.

Teachers have been told that they must change their emphasis from the presentation of subject matter to the development of the complete personality of the child, but too often such admonitions have little significance for the teacher. They frequently sound like vague criticisms which too easily lead to resentment. There is nothing in this book that the teacher can possibly interpret as criticism. Instead, the viewpoint of the educator pervades every chapter, and concrete and workable methods are proposed for putting into effect the principles which, too often, are presented in a form that nobody but a physician or a scientist can understand.

The author also makes perfectly clear the principle that the problem child is the one who may be progressing toward mental ill health rather than the child who upsets the classroom decorum or who disturbs the emotional prejudices of a particular teacher. The reader is stimulated to study children, rather than to study problem behavior in the abstract, and to measure teaching success in terms of the wholesome attitudes imparted to a child in such a manner that these attitudes become an integral part of his life and thinking.

JOHN J. B. MORGAN

NORTHWESTERN UNIVERSITY

Clinical psychology coming of age.—One of the contemporary interests and problems of American psychology is the development and integration of state and national professional organizations for clinical psychology. While the clini-

cal psychologist has a well-defined role in many institutions, he has for the most part been compelled to create that role by a personal synthesis of interest, training, and experience. Few universities feel that they have a satisfactory program for the preparation of the clinical psychologist. Psychologists have frequently developed manuals of practice containing the special types of information most useful for them in their work. Books written for their special needs have been few and lacking in detail and comprehensiveness. Louttit meets these needs in an unusually adequate fashion.[1]

Louttit's book illustrates the breadth and the depth of the sources from which a modern clinical psychologist may draw. A synoptic treatment of knowledge concerning the conditions encountered in clinical practice is accompanied by useful reference tables. The author has limited himself to the preparation of a handbook of children's behavior problems. The data for the book have been selected from the various fields that have contributed helpful material on the diagnosis and the treatment of behavior disorders in children.

The first section of the book presents an account of diagnostic methods, based on history, examinations, and psychometrics. A useful feature is a series of tables giving information on available instruments for the measurement of educational achievement, special abilities or aptitudes, performance, mental growth, and personality. A second section is devoted to the problems of mental deficiency, school retardation, specific disabilities in school subjects, and superiority. This section contains tabular summaries of major findings on the relation between achievement and mental capacity.

The third and largest section of the book is devoted to behavior problems. The major interest is in those behavior problems not attributable primarily to inferiority or superiority in general abilities or to a demonstrable organic disability. The author is chiefly concerned with primary behavior problems where the sources and the reasons are to be sought in the individual's reactional biography. In this group psychological factors of diagnosis and remedy are of first importance. The difficulty of making the distinction is realized. Separate chapters are devoted to conduct problems, juvenile delinquency, speech defects, personality problems, and the psychoneuroses and psychoses.

A final section of the book is concerned with behavior problems correlated with organic disabilities. Diagnosis of visual and auditory defects is described, and the relation of the defects to personality, intellectual performance, and educational achievement is discussed. Particular behavior conditions resulting from encephalitis, epilepsy, malnutrition, and physical disabilities of a handicapping or crippling type are reviewed.

Forty-four pages devoted to references make it possible for the clinician to secure preliminary orientation on practically any problem that is likely to be encountered in clinical practice. Case histories add to the general interest and value of the work.

[1] C. M. Louttit, *Clinical Psychology: A Handbook of Children's Behavior Problems.* New York: Harper & Bros., 1936. Pp. xx+696. $3.50.

The book will please those workers who believe that practice in the field of human relations should rest on experimental, observational, historical, and quantitative methods. The child analyst, in the sense of psychoanalysis, will be chagrined at the easy dismissal of subjective dynamic hypotheses. Even those with an objective bent would probably welcome the addition of a more systematic and extended consideration of the therapeutic values of the interview, of the diagnostic possibilities in observation of the play of children, and of the clinical use of toys and construction materials.

The book should find favor for use in organized courses in clinical psychology offered at the larger universities. It is an indispensable reference volume for clinical workers. All professional practitioners in the area of human relations—whether teacher, preacher, social worker, doctor, lawyer, or administrator—will profit by an examination and study of its contents.

WILLARD C. OLSON

UNIVERSITY OF MICHIGAN

A psychiatric explanation of human behavior.—During the past twenty or twenty-five years the psychiatric field has fairly definitely divided itself into two general phases: (1) the study and treatment of mental diseases and (2) the study of maladjustments of behavior which are included under mental hygiene. Most persons are not aware of the tremendous amount of research in the field of mental diseases and consider the sole function of the psychiatrist to be work with behavior disorders of various types. It is not to be denied that the mental-hygiene aspect of psychiatry has contributed material of inestimable value to parents, teachers, social workers, and others involved in human relationships. Nevertheless, because of the relative youth of this field, more educational than research work has been done, and this fact has resulted in extravagant claims and statements regarding the origins and the mechanisms of human behavior. The situation is complicated by the existence of a variety of schools of psychiatry, which have in general produced no research findings but have, nevertheless, been loud in their claims to a complete understanding of the origins of human acts. Still another complication has arisen in the form of a variety of semitrained individuals whose only legitimate claim to an understanding of human behavior is their interest. Thus there are insurance salesmen who are writing books on normal and abnormal behavior, teachers who syndicate columns on the treatment of behavior disorders, and popular lecturers who appear before women's clubs in the guise of specialists. It seems, therefore, that the danger to psychiatry as a science lies in the popularization of some of the contents, that is, the popularization of the material which is of everyday interest to almost every person but which has been inadequately studied experimentally.

Obviously no treatise on psychiatry can adequately include the wide variety of topics ordinarily included in this field. At best, any one person can be adequately informed on only a few psychiatric topics. Sadler's volume[1] of more

[1] William S. Sadler, *Theory and Practice of Psychiatry*. St. Louis, Missouri: C. V. Mosby Co., 1936. Pp. xxii+1232. $10.00.

than twelve hundred pages is a magnificent attempt to include in one book almost every conceivable topic of human behavior and is one of the few attempts made to write a system of psychiatry. Its chief defect, however, is this very attempt to systematize the whole field of psychiatry in spite of the many areas in which little or no experimental work has been done. The book, which contains seventy-seven chapters, treats topics ranging in type from genetic psychology to self-control, and from the problems of the preschool child to adult paranoid states. Obviously no one person can adequately treat such a range of topics, and the author must have employed a variety of assistants in this work.

In regard to the problem of the popularization of psychiatry, some of the author's statements in the Preface show his attitude. He states, for example, "I feel at perfect liberty to resort to the clinical application of philosophy and even of religion" (p. viii). To many trained psychiatrists this statement may be a warning not to refer to the rest of the book. This is not to deny the importance of philosophy and religion; but, if the author seeks a compromise between religion and science or, as he clearly implies elsewhere, between the various schools of psychiatry, then the book must be considered a treatise on the philosophy of psychiatry rather than as a scientific discussion of the content of psychiatry.

The evident difficulty involved by the treatment of hundreds of topics within one volume is well illustrated by the superficiality with which some subjects are discussed and by the construction of hypotheses lacking the most fundamental verification. As examples, on page 239 the influences and the contributions of biochemistry are treated in one paragraph containing six sentences; on page 246 the topic of social attitudes is treated in less than a page. Here the author classifies human dispositions into nine categories. No definition or substantiating evidence is given for the term "disposition," nor is there any other evidence that the classification was developed by anything more than personal opinion. Examples of this classification of human disposition are the *sensual* and the *tender-hearted*. At once the author takes us back to the kind of discussion of human behavior characteristic of the nineteenth or perhaps the eighteenth century. The author is evidently fond of classifications. On page 261 he classifies isolated personalities into eleven categories, among which are the *volitional old maids*, the *placid and gentle philosophers*, the *peace-loving pacifists*, and the *ultra-scholastic* types. Certainly the pacifists would reject the idea that they are isolationists.

It is perhaps unfair to utilize so much of the space of a review in pointing out the defects of a book. Nevertheless, one more serious fault, which is rather dangerous, should be pointed out. It is the attempt of the author to give rules of mental hygiene. On page 919 he states that neurotic and highly emotional persons should cultivate the ability to think in exact opposites and to see the other fellow's viewpoint. It should be obvious to any well-trained person that mental hygiene does not consist in wise sayings or sermons. The author has precedent, however, in this attempt to lay down rules, for he quotes Austin F. Riggs on ten rules of a mental-hygiene code.

Despite the book's obvious defects, much can truly be said of the book as a volume containing a great deal of informative material and sound advice. It certainly contains much more material than is ordinarily given the medical student in his course work in psychiatry. The book should also be a genuine help to students of other fields who wish to obtain a rapid review of the large number of topics in this field. Perhaps the popular terms that the author uses may be partially justified by the current fashionable use of generalities and coined terminology by a large number of superficially trained psychiatrists whose most important armament is linguistic flexibility. Perhaps the "clinical philosophy" which this author wishes to use in his treatment of patients is also justified by the large number of persons in fields other than psychiatry or psychology who insist on using psychiatric and psychological terminology without adequate training or understanding.

MANDEL SHERMAN

A handbook of methods for the teacher of language in the early grades.—With the influx of elementary textbooks in language during the last three or four years, there have appeared manuals and handbooks to assist teachers in the use of such material. Since professional books dealing with the teaching of language in general have been relatively scarce, a book[1] on the language program in Grades I and II will help to meet this need.

The book is divided into four parts. Part I, entitled "The Point of View," gives, in seven pages, the author's ideas concerning the teaching of language to young children. Such questions as major ends to be attained, the problem of method, the techniques of expression, and the teacher's background of understanding are discussed. It is inevitable that the attempt to put so much into so short a space should lead to a treatment which is somewhat brief and abstract. A full discussion showing the relation of language and the activity program today would have been helpful to teachers.

Part II, "Language Activities," is much better. It gives, in sixty-three pages, full descriptions of various language activities which are desirable for children of Grades I and II. The important phases discussed are: conversation, making and keeping records, making visual aids, delivering messages, explanations and directions, making inquiries and announcements, making book reports and reproducing stories, listing and outlining, making oral reports and speeches, letter-writing, dramatization, creative expression through story and verse, and observing courtesies.

In discussing each of these topics, the author first makes clear the need for the particular activity and gives practical situations of happy and useful living upon which the language activities are based. If the child is to grow normally in the language activity, the teacher must utilize such situations. With the appreciation and the need explained fully, the author suggests teaching procedures

[1] Bessie Bacon Goodrich, *The Language Program in Grades One and Two.* New York: Charles E. Merrill Co., 1936. Pp. iv+140.

which may be used to promote growth in each of the language activities named. Finally, she lists desirable outcomes for each activity.

The situations described are real and worth while, and the teaching procedures are good. However, there is a question concerning the outcomes. The author states, in connection with certain activities, that "the outcomes . . . . should be considered as possibilities" and, further, that "not all of them can be achieved in the first and second grades" (p. 13). Teachers may well ask, "Are there no outcomes which can be achieved definitely in these grades?" Of the nineteen objectives listed under "Conversation," surely three or four could be stated as definite goals to be attained in Grades I and II.

Part III, "Forms and Technicalities," devotes ten pages to ways in which sentence forms, punctuation, correct usage, and standard forms in letter-writing are to be taught.

Part IV devotes sixty pages to descriptions of specimen units involving language activities. Here the classroom teacher will find help in planning activities for a language program. Such units as wool, the post office, milk trains, and passenger trains are treated in detail.

The chief value of this book is in its treatment of specific activities upon which language-teaching is based in Grades I and II. The presentation of type lessons and children's compositions will prove suggestive to teachers.

GRACE E. STORM

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

BROWN, HARRY ALVIN. *Certain Basic Teacher-Education Policies and Their Development and Significance in a Selected State: A Historical and Interpretative Study of Certain Aspects of Teacher Education in New Hampshire Which Represent Significant Developments in the Professional Preparation of Teachers in the United States.* Teachers College Contributions to Education, No. 714. New York: Teachers College, Columbia University, 1937. Pp. vi+184. $1.85.

Casebook of Research in Educational Psychology. Edited by Sidney L. Pressey and J. Elliott Janney. New York: Harper & Bros., 1937. Pp. xviii+432. $2.00.

GILLSON, MARGERY STEWART. *Developing a High School Chemistry Course Adapted to the Differentiated Needs of Boys and Girls.* Teachers College Contributions to Education, No. 709. New York: Teachers College, Columbia University, 1937. Pp. viii+96. $1.60.

HOLLEY, CHARLES ELMER. *High School Teachers' Methods.* Champaign, Illinois: Garrard Press, 1937. Pp. viii+514. $3.00.

HOPKINS, L. THOMAS, with the co-operation of FRED M. ALEXANDER, SIBYL

BROWNE, J. WILLIAM BUCHANAN, IRWIN A. HAMMER, PICKENS E. HARRIS, E. C. LINDEMAN, I. H. MACKINNON, GOODWIN WATSON, and RAYMOND H. WHEELER. *Integration: Its Meaning and Application.* New York: D. Appleton-Century Co., Inc., 1937. Pp. xiv+316. $2.00.

KUDER, MERLE. *Trends of Professional Opportunities in the Liberal Arts College.* Teachers College Contributions to Education, No. 717. New York: Teachers College, Columbia University, 1937. Pp. x+134+102. $2.35.

LA SALLE, DOROTHY. *Physical Education for the Classroom Teacher.* New York: A. S. Barnes & Co., Inc., 1937. Pp. xii+210. $2.00.

MURPHY, LOIS BARCLAY. *Social Behavior and Child Personality: An Exploratory Study of Some Roots of Sympathy.* New York: Columbia University Press, 1937. Pp. viii+344. $3.50.

OBERHOLTZER, EDISON ELLSWORTH. *An Integrated Curriculum in Practice: A Study of the Development, Installation, and Appraisal of a Certain Type of Integrated Curriculum in the Educational Program of the Public Elementary Schools of Houston, Texas.* Teachers College Contributions to Education, No. 694. New York: Teachers College, Columbia University, 1937. Pp. xvi+218. $2.35.

OBERHOLTZER, KENNETH E. *American Agricultural Problems in the Social Studies: Some Important Agricultural Problems and Related Generalizations That Should Be Considered in the General Curriculum of Urban and Rural Schools.* Teachers College Contributions to Education, No. 718. New York: Teachers College, Columbia University, 1937. Pp. vi+120. $1.60.

SEYFERT, WARREN C. *School Size and School Efficiency: A Study of the Effects of Enrollment upon the Organization of Reorganized Secondary Schools.* Harvard Bulletins in Education, No. 19. Cambridge, Massachusetts: Harvard University Press, 1937. Pp. xiv+316. $1.60.

SHARMAN, JACKSON R. *Modern Principles of Physical Education.* New York: A. S. Barnes & Co., Inc., 1937. Pp. viii+208. $2.00.

SPEARS, HAROLD. *Experiences in Building a Curriculum.* A Treatment of the High-School Curriculum Program of Evansville, Indiana, with Special Attention to Classroom Methods. New York: Macmillan Co., 1937. Pp. xii+196. $2.00.

STANFORD UNIVERSITY EDUCATION FACULTY. *The Challenge of Education: An Introduction to Education.* New York: McGraw-Hill Book Co., Inc., 1937. Pp. xiv+472. $3.00.

TUCKER, LOUISE EMERY. *A Study of Problem Pupils.* Teachers College Contributions to Education, No. 720. New York: Teachers College, Columbia University, 1937. Pp. viii+172. $1.85.

WHITNEY, FREDERICK LAMSON. *The Elements of Research.* New York: Prentice-Hall, Inc., 1937. Pp. xviii+616. $3.50.

WILLIAMS, JESSE FEIRING; DAMBACH, JOHN I.; and SCHWENDENER, NORMA. *Methods in Physical Education.* Philadelphia: W. B. Saunders Co., 1937 (second edition). Pp. 278. $2.50.

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